

RAIC JOURNAL

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ROYAL ARCHITECTURAL INSTITUTE OF CANADA

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IF EVERY CHAIRMAN OF THE EDITORIAL BOARD could know there had been one major accomplishment during his term of office, he might well feel that the Board's effort had not been in vain.

All past chairmen can be sure of that and more. This one would be very happy if it could be established that there had been an increasing awareness of the importance of the *Journal* during the past few years. To have every architect in Canada fully aware of the importance of the *Journal* to him, as an individual and to the Institute, as a body, is the goal. We are not even close to reaching this goal in 1957.

Listening to a church sermon, with one eye scanning a few architectural details on the side, the thought of writing sermons came to mind. How can a minister, or priest, think of new things to say? Hasn't everything been said about religion many times over? We all know the answer, and we all know we must have it repeated time and time again for our own good.

Everything hasn't been said about the importance of your *Journal* to you. The story has just begun and is almost like the beginning of religion and needs endless repetition. These pages have seen messages from your President telling of the great importance of your *Journal* to the architectural profession in Canada, but there are still some Canadian architects who know very little, and perhaps care even less, about the *Journal* and how it operates and what it does.

Your *Journal* doesn't just run itself. It isn't just run and operated by some vague or unknown organization like the operation of your daily newspaper. It is run by your brother architects and, while the *Journal* depends on you, a matter of vital importance is how much you depend on your *Journal*. The Institute couldn't function as it does without the support of the *Journal*.

There is a *Journal* Committee which is appointed by Council. This committee consists of the President of the Institute, three members of Council and the Chairman of the Editorial Board. It formulated the Terms of Reference for the Editorial Board, sets general policy of the Board and regulates, in a very broad sense, the operation of the *Journal*. There is an all important editor and, this year, an assistant editor. There is the editorial board which consists of twenty members and up to forty-six provincial representatives and there is, of course, the very necessary publisher and his staff. This, with your help and co-operation is the operation of your *Journal*. It is a business in part, and it is your business. Your welfare, as an architect, depends, to some extent, on the success of your *Journal* and your enjoyment of the *Journal* depends, to some extent, on your contribution and co-operation. All the very hard work of the editorial staff, Board members, Committee members and representatives isn't quite enough to make your *Journal* everything it might be. It needs your help and the awareness that the *Journal* is yours, a proud possession of every architect in Canada.

The custom of writing the Christmas editorial gives the chairman the most welcome opportunity to make known his great appreciation of the hard work and loyalty of all Board members and representatives, editor and assistant editor, publisher and staff, and to wish a very happy Christmas and prosperous New Year to all our advertisers and readers.

Earle C. Morgan
Chairman of the Editorial Board

NEW WOODBINE RACE TRACK

ETOBICOKE TOWNSHIP, ONTARIO

Architect, Earle C. Morgan

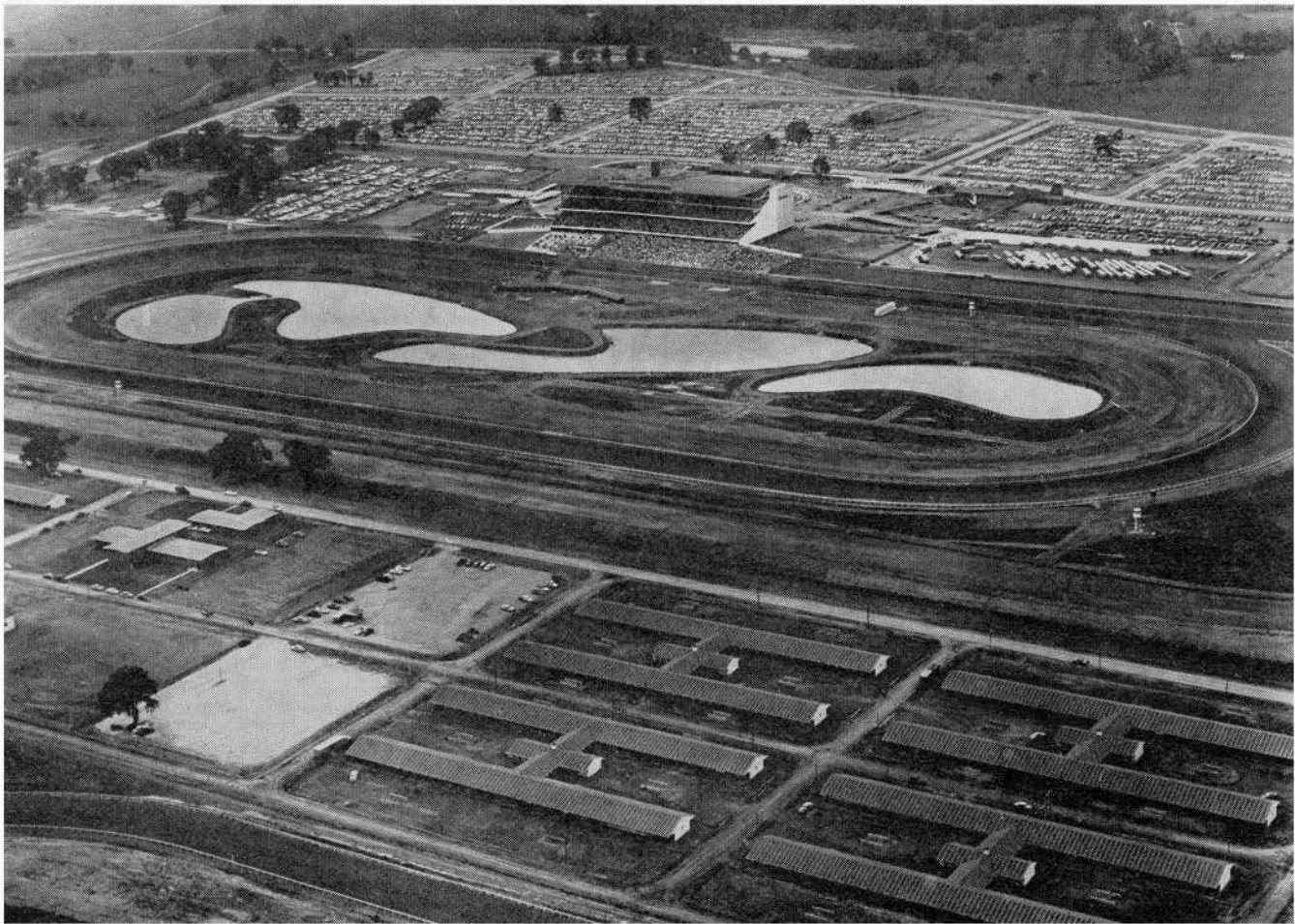
*Consultant on Grandstand, Arthur Froeblich, A.I.A.
Structural Engineers, Wallace, Carruthers & Associates Ltd.
Mechanical Engineers, Proctor & Redfern
Electrical Engineers, McGregor and Beynon Ltd.*

*General Contractors for Grandstand, Administration,
Jockey and Paddock Buildings, The Jackson-Lewis Company Limited
General Contractors for Stables and Stable Service Building,
Newman Bros. Limited
General Contractors for footings and foundations of Grandstand,
Sir Robert McAlpine & Sons (Canada) Limited*

Stand from north-west showing clubhouse ramp in foreground

MAX FLEET

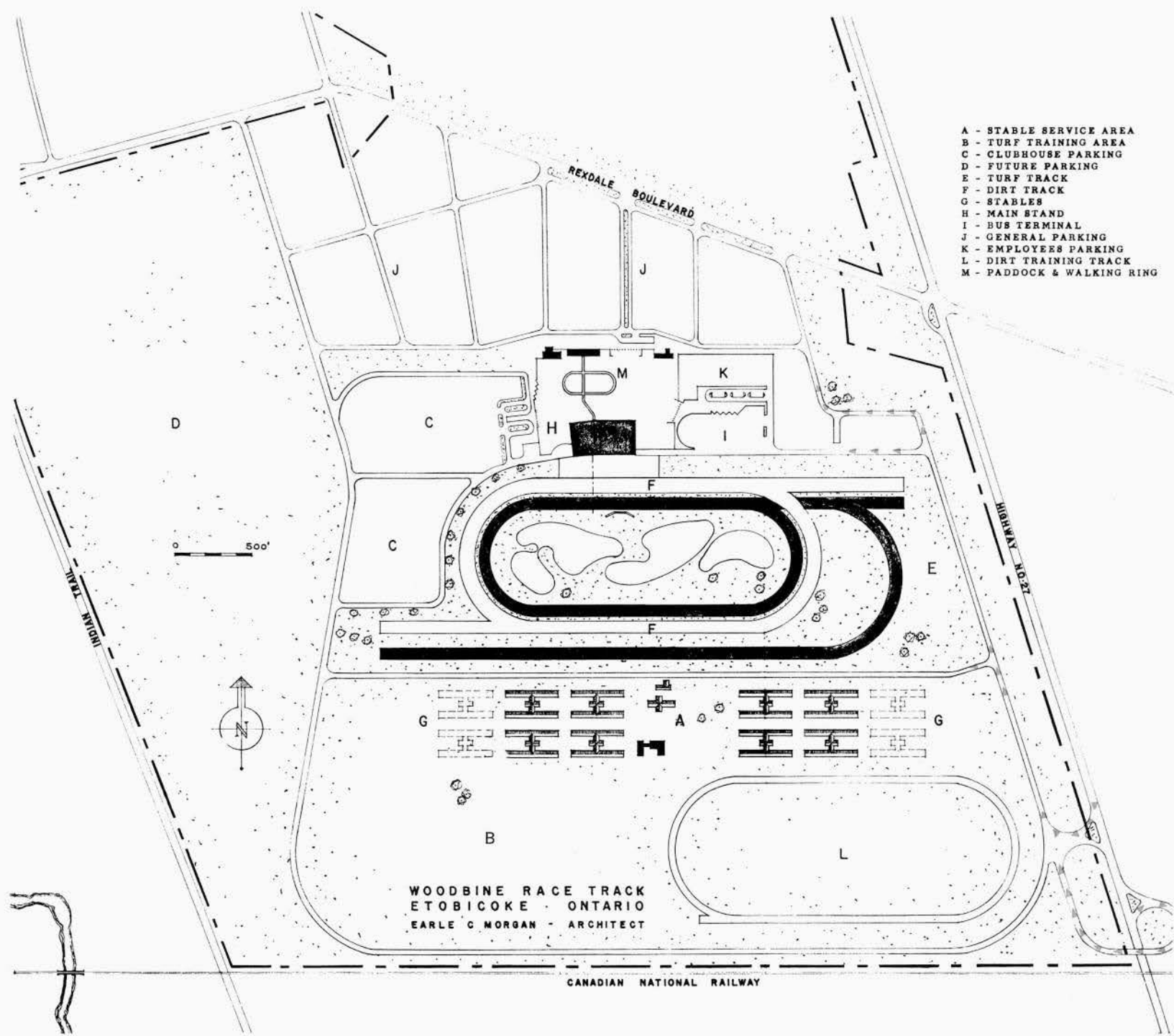




Air view from south-east showing stables in foreground and parking at north

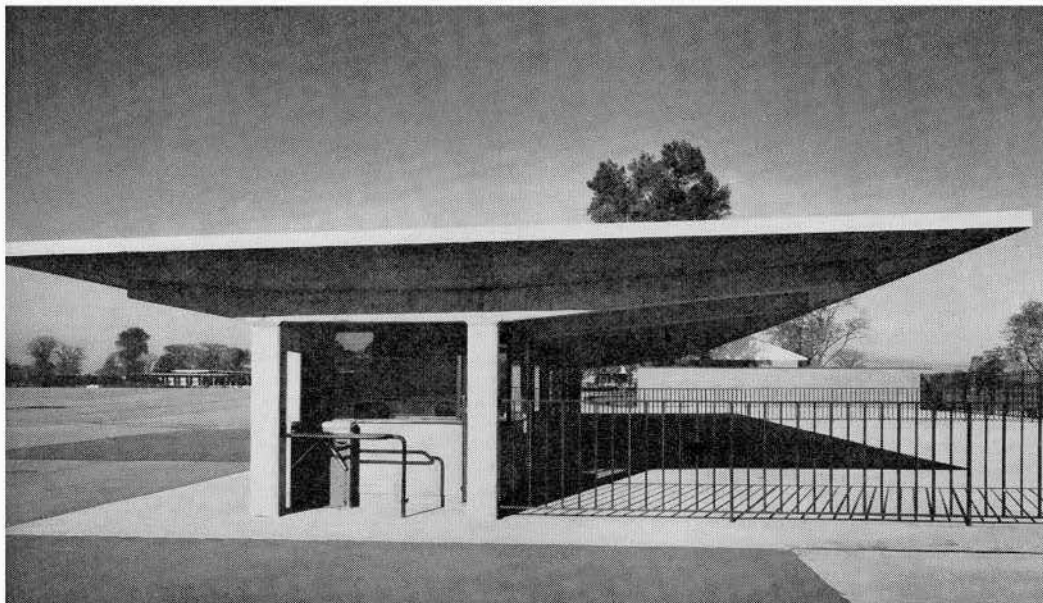
Service and cafeteria building and administration building in stable area





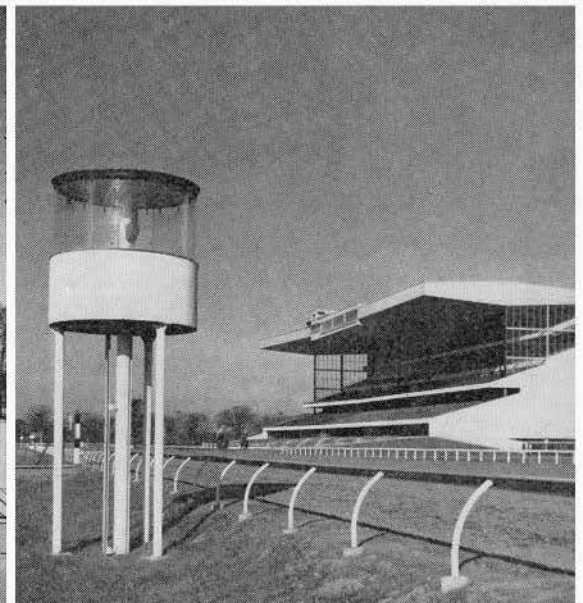
Grandstand admission booths and canopy

MAX FLEET



Patrol Judge stand

MAX FLEET





New Woodbine Race Track

THE TWO MAIN REQUIREMENTS of a race track are the facilities to stage races and the facilities to view races.

There must be a proper and adequate stabling area; living, sleeping and recreation accommodation for stable hands; a training track; a dirt and turf racing track; jockey accommodation and all the necessary administration office space.

For the public there must be a stand with good sight lines from all seats to all parts of the track; mutuels, restaurants and washrooms at each seating level; good crowd circulation within the stand and adequate parking areas with good ingress and egress.

The Directors of The Ontario Jockey Club, aware of cramped conditions at many large U.S. tracks, wisely looked to the future and purchased approximately 800 acres for the New Woodbine. By comparison, Hollywood Park in Los Angeles has only 365 acres. Provided with this amount of property the New Woodbine has a full mile dirt training track, a large area for turf training, 1100 horse stalls which may be increased to 1400 and parking for 16,000 cars which may be increased to at least 40,000. The present stand has a 6000 seat public area to the east which may be tripled, and a clubhouse section of 2000 seats to the west which may be doubled to provide a possible total seating capacity of 22,000. It should be noted that only about one third of the people at a race track require seats, so that, should 22,000 seats be required at some future time, the track could then accommodate 60,000 people and the 40,000 car parking would be necessary. The present surrounding roads would then be far from adequate. It is hoped that the roads will keep pace with the demand for accommodation at the track.

Highway No. 27 is four lane. The Woodbine track owners installed an overpass to take north bound traffic over the highway and on to their property at the south. From there, on their own roads, traffic goes either to the extreme north of the property and then down various parking roads towards the public general admittance entrance, first arrivals being able to be nearest, or around the south of the property and north on the west side to the clubhouse parking. The owners

provide free transportation from distant parking areas to the track entrance.

The Grandstand and Clubhouse building is approximately 410 feet long and 220 feet deep. The Grandstand section has four seating levels and the Clubhouse section three, the fourth level being the Director's floor. The stand is higher and deeper than other stands on this continent to place as many people as possible close to the finish line and to allow for future expansion up to 22,000 seats without having some of them beyond the turn of the track.

The most important single item in the design of a race track stand is to have all facilities at each level so that the patrons have the maximum time to decide which horse they think will win, be able to make their bet quickly and, if right in their choice, cash tickets quickly and be able to bet on the next race. It is obvious that if a person has to take twenty minutes to go to a washroom it is likely that a bet on the race near that particular time will be missed. That isn't good business for a race track.

The reason a track only requires seats for approximately one third of the patrons is that a great many people like to watch a race from the apron in front of the stand. At many existing tracks the slope of the apron is not steep enough to allow standee viewing of the track and there is not easy crowd flow from the apron to the betting ring behind it. The section shows the New Woodbine to have a proper slope for the apron with the slope continued under part of the seating deck so that patrons may still stand and watch a race under cover on rainy days. The main betting ring floor is at the top level of this slope, placing it approximately 15 feet above grade at the rear, and entrance side, of the stand which explains the twenty foot wide ramps shown on the north elevation. These ramps, plus the many wide stairs, escalators and elevators, provide quick and easy vertical transportation. Elevators are used only for the comparatively small number of clubhouse and turf club patrons.

Having the main betting floor above grade frees the grade level area for all the many ancillary requirements of a race

track. Here are placed the various money rooms in connection with the mutuel department, rooms for the totalizator electrical equipment and control, boiler room, kitchens, maintenance and storage rooms, film patrol development room and press photographers' room, a bank branch, barber shop and telegraph office and a completely equipped infirmary with male and female wards for the public and a jockey ward as well as a police room with two temporary cells.

In the front part of the roof structure is a press gallery for 90, a room for the racing commission stewards and a judges' room which is directly in line with the finish line of the track. Over the judges' room is the photographer's room with the camera trained on the finish line and the mirror on the inside track rail which reflects the far side of the horses as they cross the finish line. Should the judges be in any doubt about the order of finish for any race a photograph of the finish may be developed in a matter of seconds and projected down to a small dark room in the judges' area. These photo finish pictures are then distributed to various points in the stand and enlargements shown on a screen for public viewing and assurance of just how the horses did cross the finish line.

The racing commission stewards watch the races from their vantage point in the roof structure but there are also three high film patrol towers where movies are taken of each race and circular patrol judge stands, enclosed with plexiglas, from which patrol judges view each race. If the stewards see an infraction of racing rules in any race it is dealt with promptly. If they wish corroboration they get reports from the patrol judges and the three films are brought into the developing room at grade level, processed, and made ready for viewing by the time the stewards go down on their private elevator. If, for instance, a jockey makes a claim of foul he is interviewed and the film viewed for a ruling all within about ten minutes. Incidentally, if the jockey claim is judged frivolous the jockey is fined. Timing of races is no longer done just with stop watches. A teletimer system is used which, by means of electric beams across the track, registers fractions and the total time of each race. Odds are no longer calculated by humans. Each bet made is automatically registered and the changing odds calculated and shown on the tote board about

every five minutes.

Steeplechase races are no longer run at most tracks but turf racing is becoming very popular. Races in England and on the continent are all on the turf but there, racing is only continued a few days at a time and the horses move on to another track so that the turf may be repaired and rebuilt. Racing meets here last about 30 to 40 days and over that length of time more than a few turf races each week would ruin a turf course. The drainage and top dressing of the dirt strip is most important. A soil expert was employed to find the proper soil for the New Woodbine racing strip. This happened to be more than 30 miles away and hauling, mixing and placing it on the track was an expensive item of cost but there can't be good races if the racing strip isn't perfect in all weather.

The paddock area at the rear of the New Woodbine is a little different from that at most U.S. tracks. It is larger in area and has an English type walking ring, probably the largest on this continent. The horses are brought from the stabling area, through the walk way under the stand, and into the paddock building and walking ring for public viewing before each race. A concrete stepped platform surrounds the walking ring. The spectacle of walking the horses and the jockeys mounting at a signal is impressive. To take full advantage of this spectacle the stand has viewing balconies at each level.

As a note of interest, and possibly warning, it should be mentioned that the structural design dictated, to some extent, the shape of the grandstand roof. Also, the New Woodbine is situated in flat country where very high winds occur and the shape of the roof made it act like an airplane wing so that suction removed parts of the roofing. Wind spoilers have now been installed to prevent this suction.

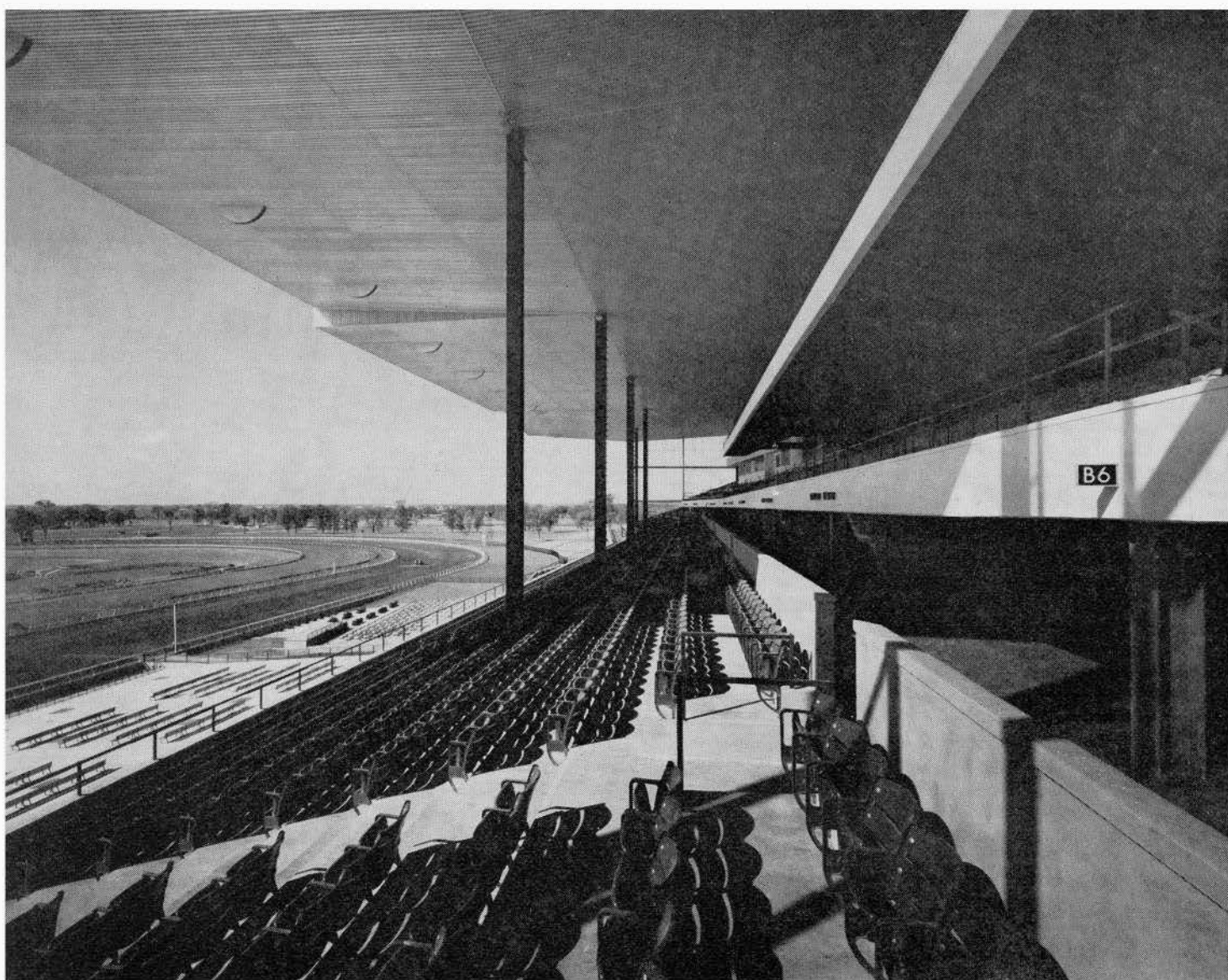
Doing a race track is a rather unusual commission for an architect. It is not just a building but many buildings and other items that make a racing plant. It is most interesting and can be good fun as well as very hard work. The task has always been easier because of the unsurpassed knowledge, understanding and co-operation of The Ontario Jockey Club. The President, Directors, Managers and all employees have always been what an architect may call the perfect client.

Earle C. Morgan

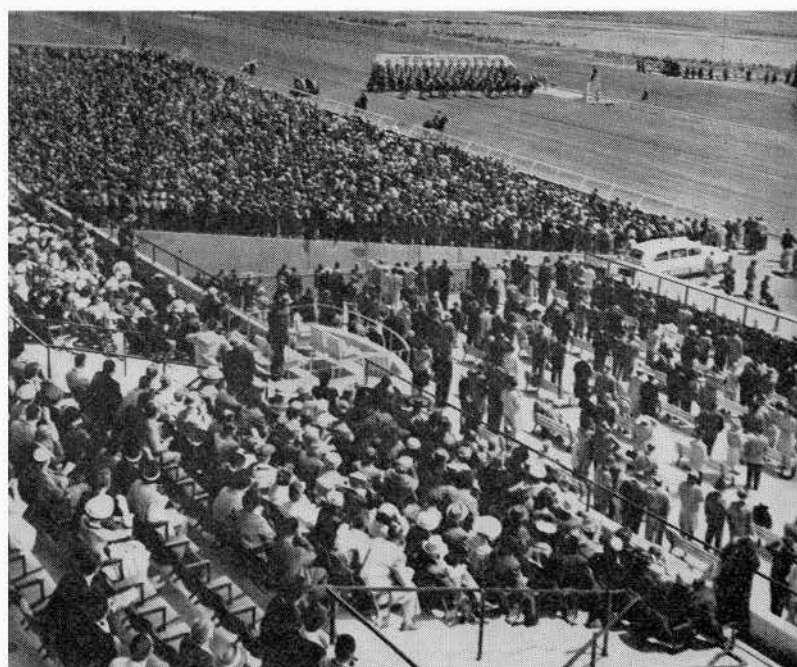
Viewers around horse walking ring

MICHAEL BURNS



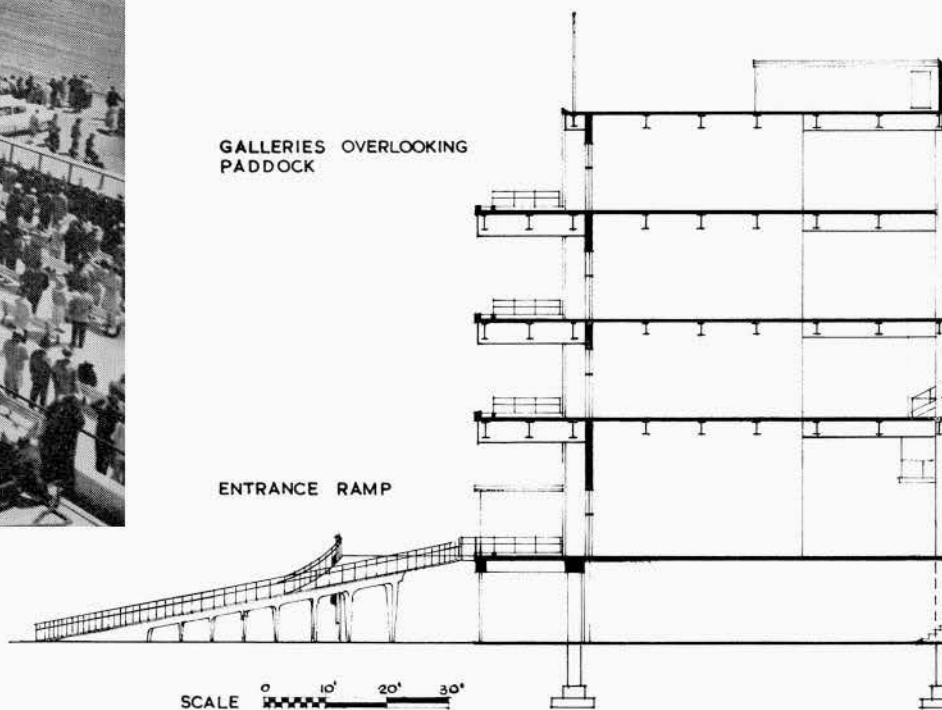


General seating area in grandstand with cantilever roof



MICHAEL BURNS

Queen's Plate day showing apron in front of stand in full use



Structure of New Woodbine Grandstand

TOWERING MORE THAN 113 FEET above the ground, the New Woodbine Grandstand is an unusual and interesting structure. Its height is about that of a ten storey building, but it is much more complicated. In structural layout the promenade floors behind the stands have panels 30' by 45'-4" centre to centre of column. The columns supporting the stands and the roof over the stands are spaced at 68' centres, which gives maximum freedom of view for the spectators. In a further effort to provide the best possible view, the majority of the seats are in front of these columns by the good layout and the use of cantilevered construction.

The largest of these cantilevers is the roof which is cantilevered out from the main column line 58'-6". This is achieved by trusses spaced at 34' centres. The intermediate trusses are carried through a longitudinal truss spanning 68' by putting the top chord of the cantilever truss just above the longitudinal truss and carrying the bottom chord through. These cantilever trusses vary in depth from 15'-4" at the centre to 7' at the ends except where judges booth and press box is at the front where the 15'-4" depth is carried throughout the cantilever. All roof truss work is made up of 12" or 10" H sections. The largest cantilever of the seating area of the stand is at the 5th level where the seating is carried out beyond the main column line a distance of 30'. 33" WF beams spaced at about 13' centres are cantilevered through heavy 36" rolled girder beams spanning 45'-8". At the 4th level there is no cantilevered seating but at the 3rd level the seating is cantilevered 14' past the main row of columns using 18 WF beams spaced about 13' centres cantilevered through heavy 36" rolled sections. There is no cantilevering of seating at the second level. The framing of this level slopes down to meet the framing of the first level near the front of the seating. On the north side of the building there are cantilevers extending out 16' to form balconies.

All of this cantilevered steel construction was made relatively easy to construct by the use of welded connections. Welding was used extensively throughout the project both for these cantilevers and for the connection of beams to columns to provide the necessary stiffness against wind forces. The roof cantilevered trusses were not welded but were connected using hi-tensile bolts. This type of bolt was used for other connections where welding was not required.

The roof deck was a steel deck on steel purlins. The floors were generally precast slabs of 6" Flexicore made with lightweight concrete and covered with 1 $\frac{1}{4}$ " of finish. Other areas of floors were poured in place concrete slabs where stiffness in a horizontal plane was required or where there were large numbers of sleeves through the floor.

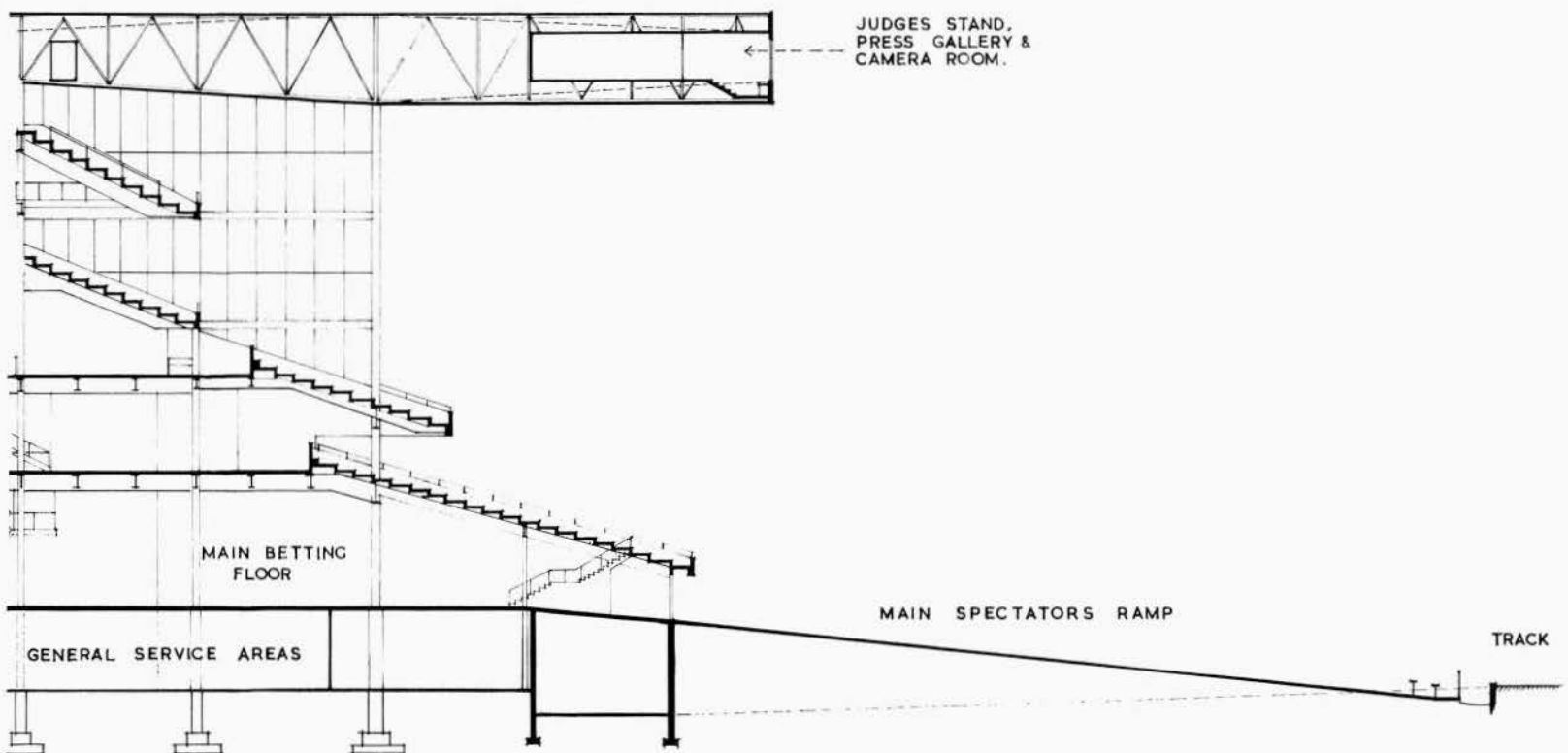
The seating areas which are stepped were poured in place concrete using 4" thick slabs for the plates and 6" thick risers which formed beams between the steel supporting members. The first floor which had extra columns was a flat slab type of framing supported both on the steel columns and on intermediate concrete columns in order to give as much headroom as possible. The foundations sit on a very hard clay capable of taking at least three tons per square foot. The footings varied in size from 5' to a maximum of 18' square under the heavy columns supporting the cantilevered roof and the seating levels. All main footings were kept at least 5' below grade and minor footings of interior walls, etc. were kept a minimum of 3' below grade to protect them against frost.

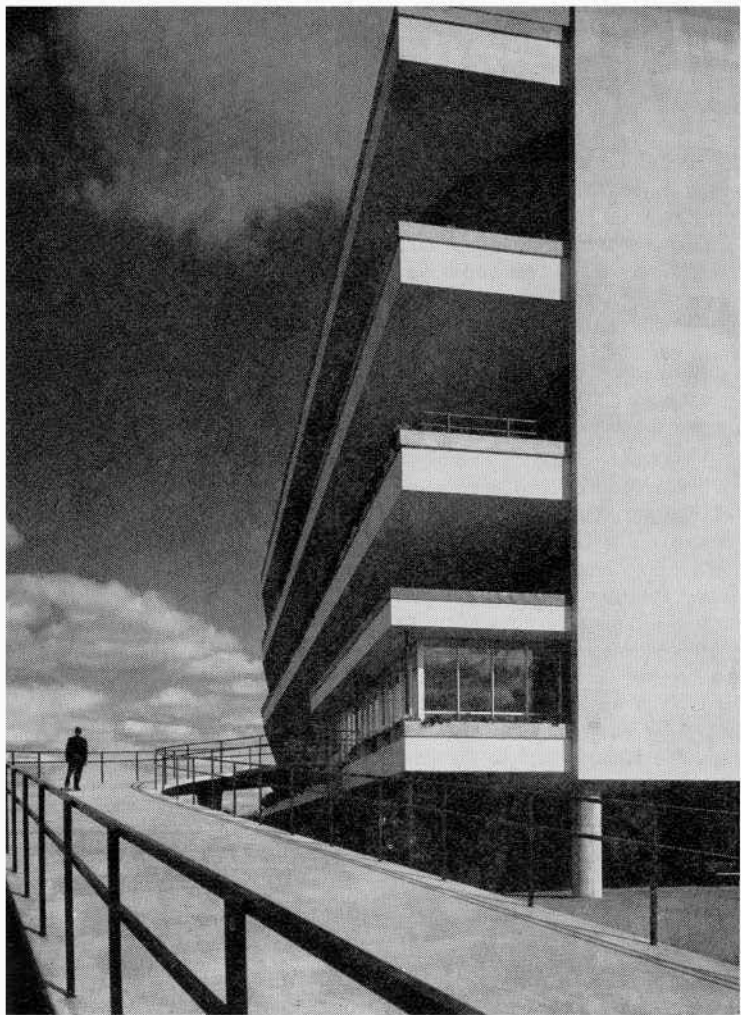
The structure is divided into three sections by two expansion joints. One is between the Club House and Grandstand and is formed by the use of a double row of columns. The other through the Grandstand toward the east end was formed by the use of pendulum type joints which allow the use of a single row of columns.

The use of long span construction on the floors gave rather heavy column loads. The average column had loads at the bottom of 1,000,000 to 1,500,000 pounds, and the heavy columns supporting the main roof trusses had load of nearly 4,000,000 pounds. These heavy columns were built up from heavy steel H columns with heavy plates welded to the toes of the flanges to give a column 23 $\frac{3}{4}$ " x 22" outside dimension. Other columns were regular H sections. Leading up to the building are entrance canopies and ramps which were constructed using a centre concrete beam spanning between columns with the slab cantilevered equal distances either side of the beam.

Provision has been made in the structure to extend both to the east end and west end of the present framing. Column connections have been provided for future beams at the various levels.

C. Carruthers





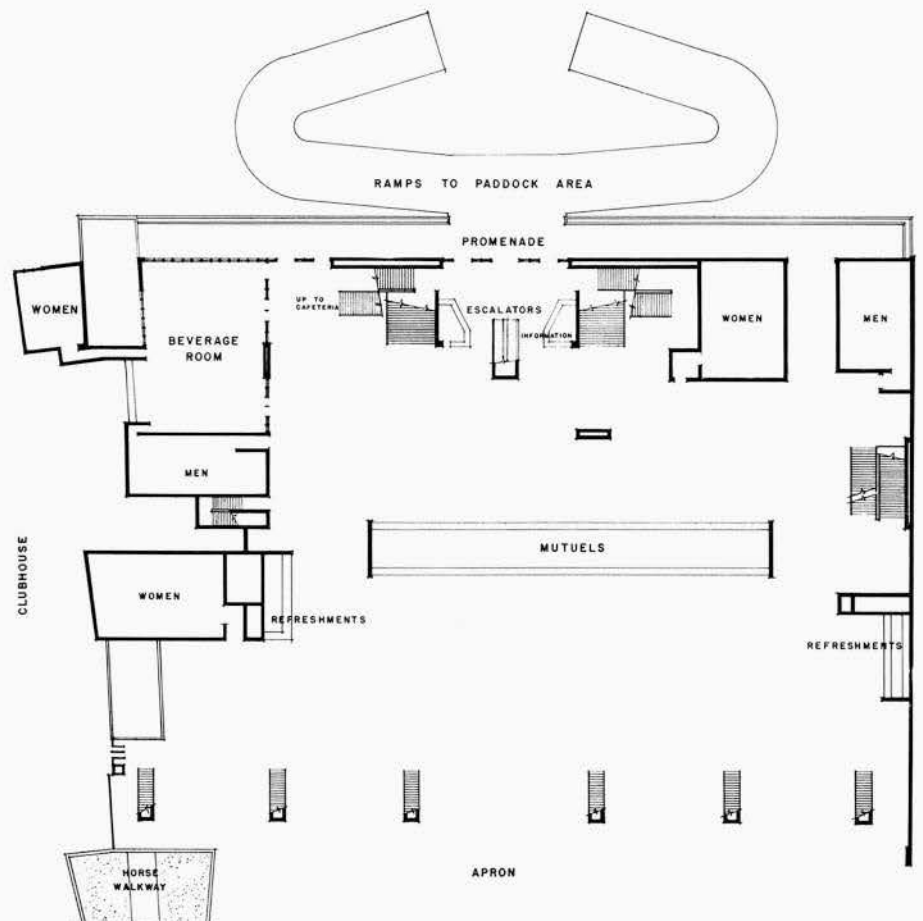
Clubhouse entrance ramp

MAX FLEET



Grandstand entrance with copper horse sculpture over pool
Sculpture by William Kettlewell

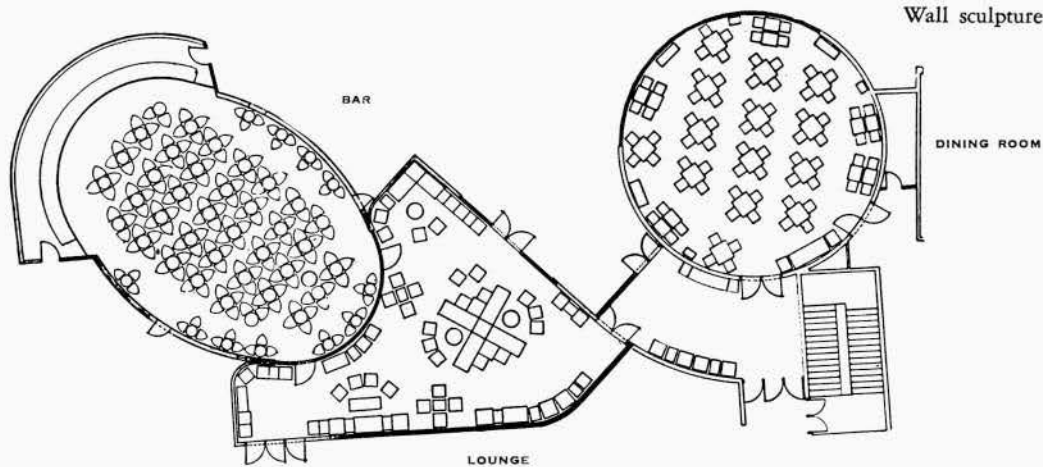
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First floor plan — Grandstand



View from Turf Club lounge into bar
Wall sculpture in the bar by the Primavera Design Group



Furnishings at the New Woodbine
are by J & J Brook Limited, Toronto

Third floor plan — Clubhouse



Turf Club dining room

Corner of directors' lounge

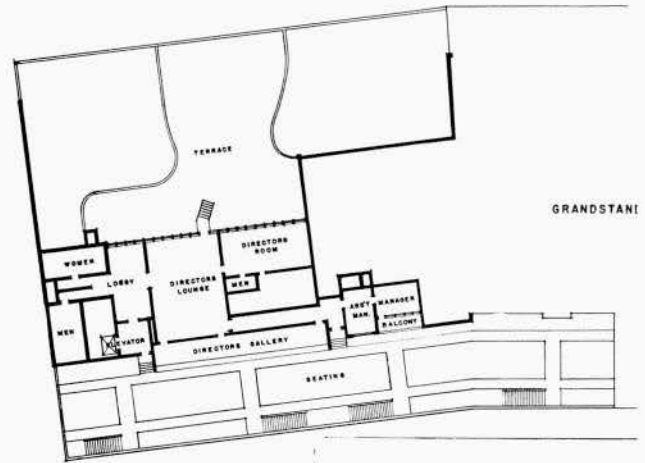


METROPOLITAN PHOTOS

Directors' lounge



METROPOLITAN PHOTOS



Fourth floor plan — Clubhouse

Directors' viewing terrace looking north over paddock and parking areas

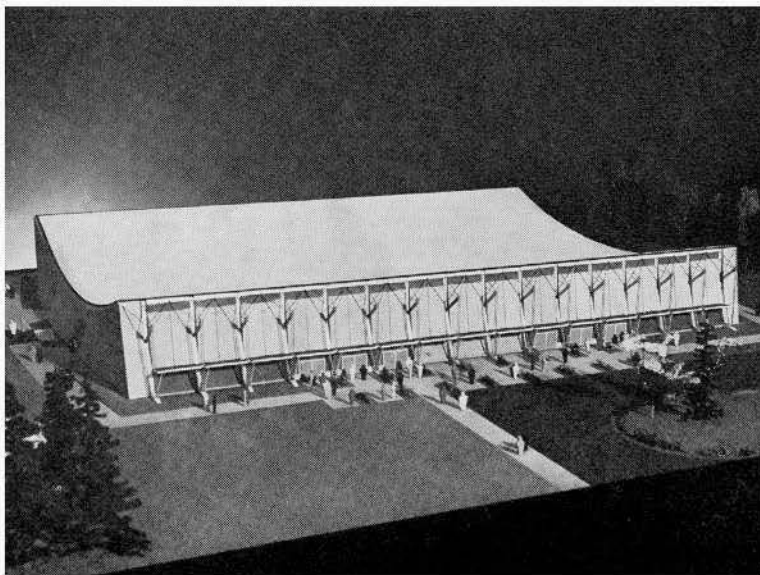
MAX FLEET



PROJECTS

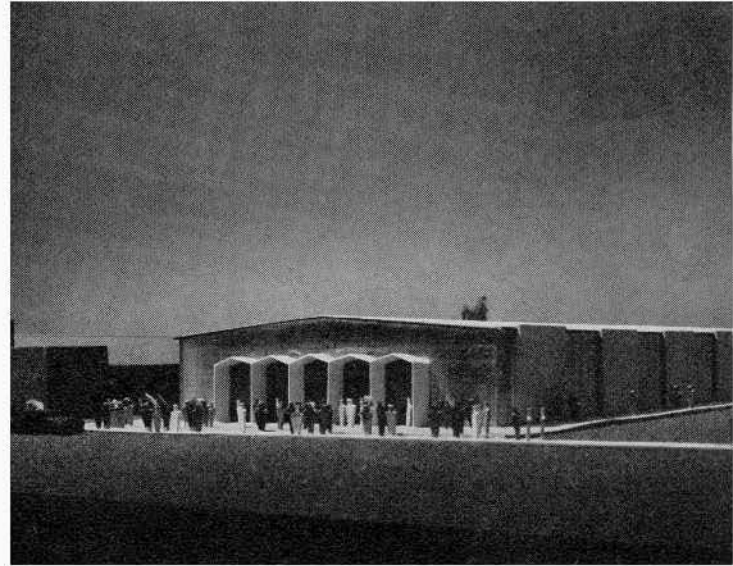
Moose Jaw Civic Centre Rink Auditorium Saskatchewan

Architect, Joseph Pettick



Curling Rink (Saskatchewan Building) Regina

Architect, Joseph Pettick

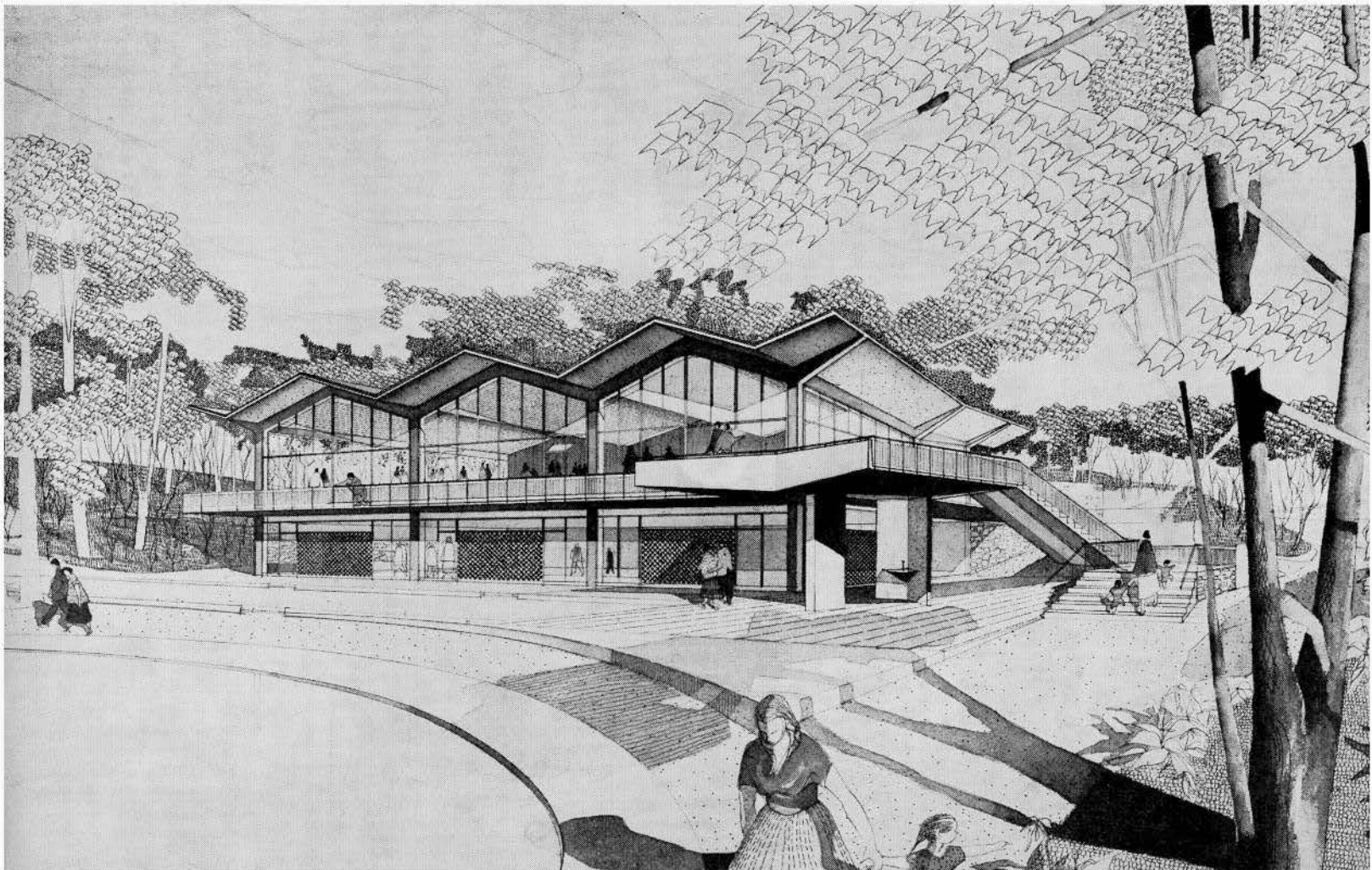


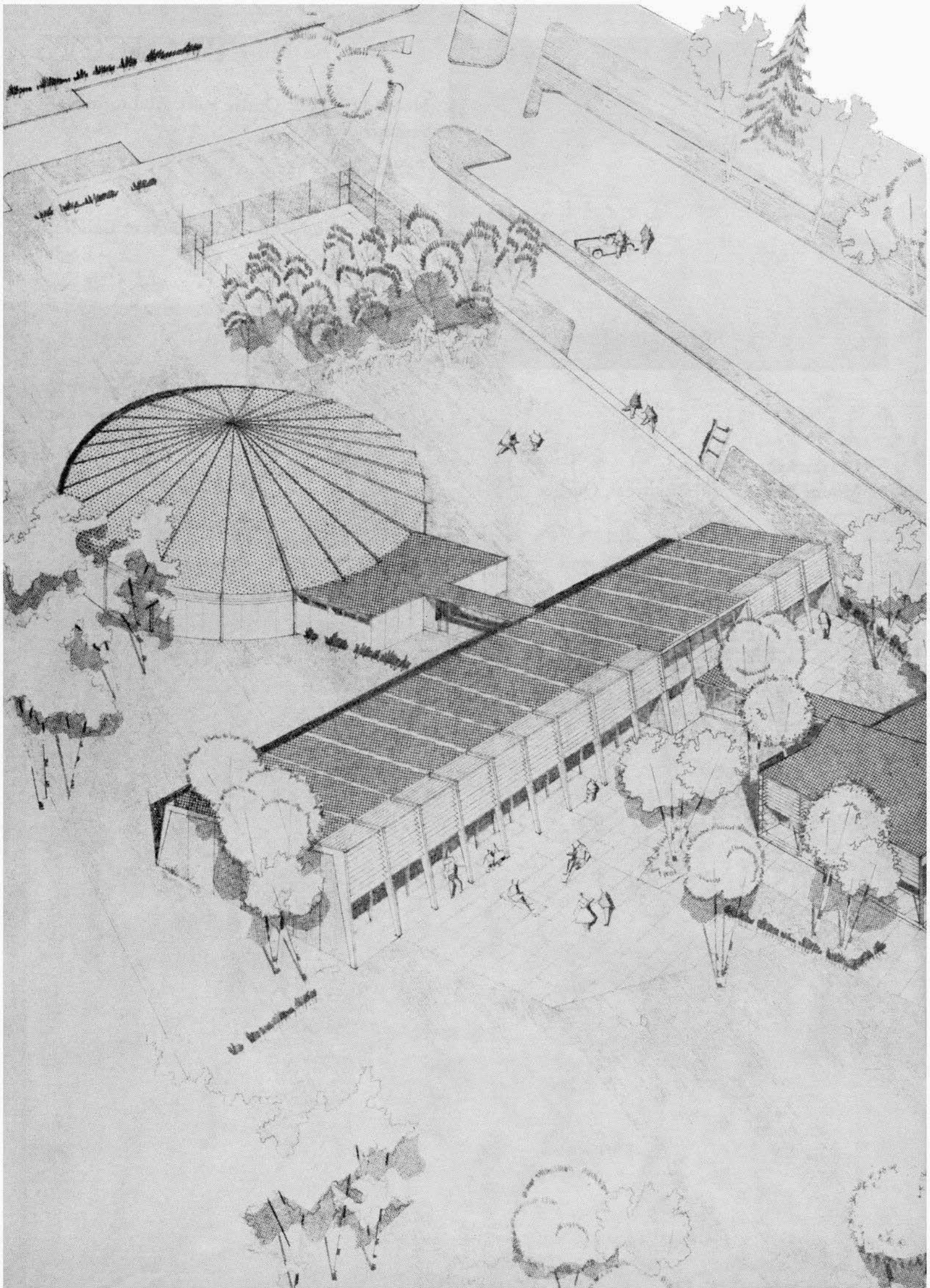
Beaver Lake Pavilion Mount Royal Park, Montreal, Quebec

Architect, Hazen Sise

Associate Architect, Guy Desbarats

A park pavilion housing a snack-bar restaurant seating 128 on the upper floor, with tables for an additional 44 on the terraces. The exterior stair leads directly to a look-out platform commanding the best view of the lake. A changing-and-warming room for skaters and skiers is under the restaurant with checking room, coffee bar and public conveniences under the rear, service block. The 4 1/2" reinforced concrete prismatic roof covers the front block, which is entirely glazed except for five decorative, glazed tile wall panels on the ground floor, and is interpenetrated by the lower rear service block of rubble stone.

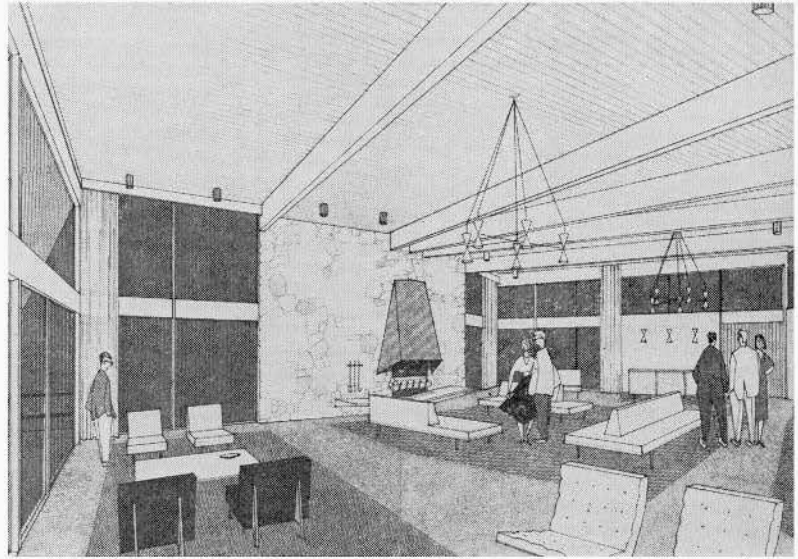




Main lounge

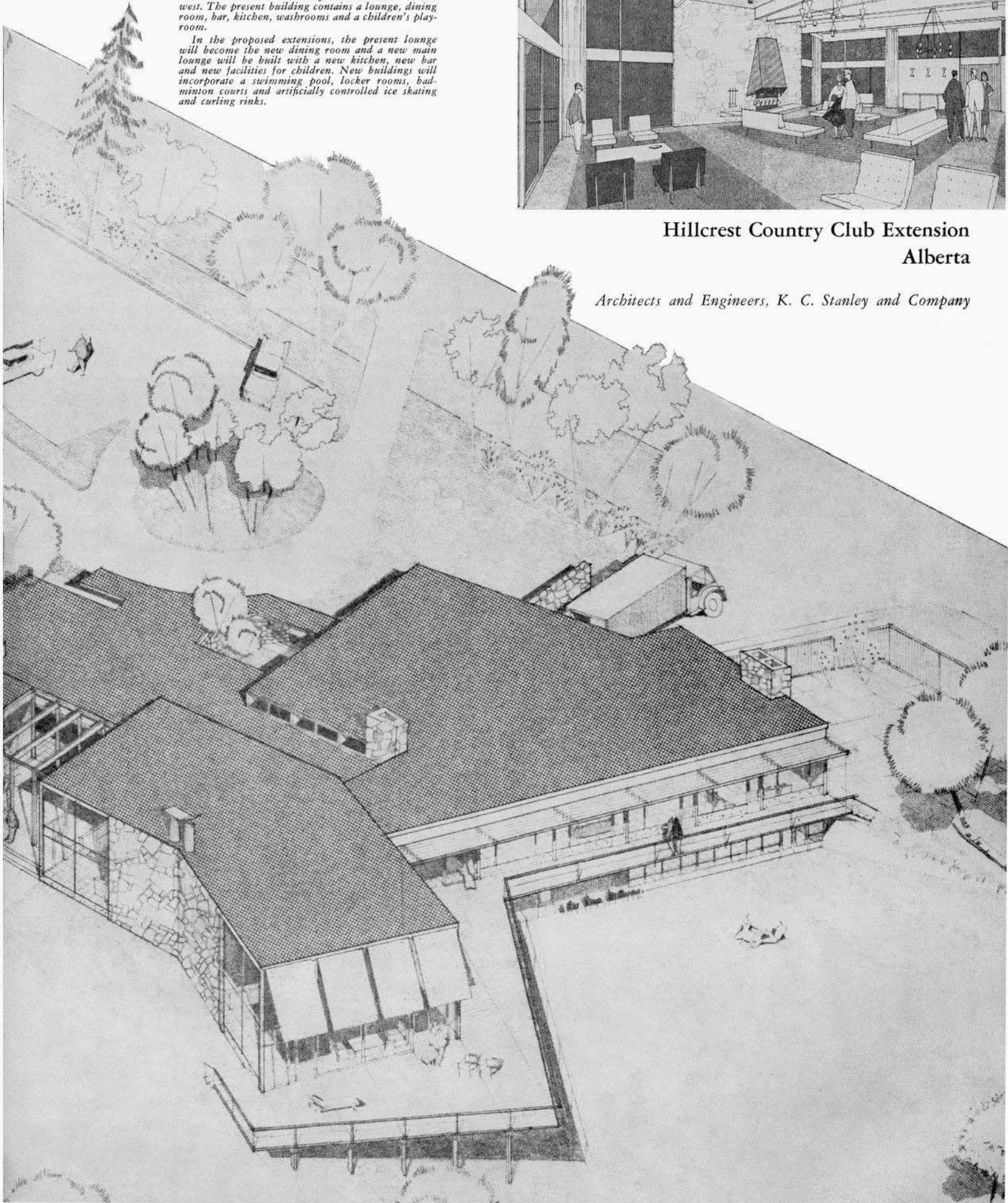
The Hillcrest Club is a social club incorporating riding, swimming, tennis, badminton, curling and skating. The first unit of the club was built in 1952 on a site 150 feet above the North Saskatchewan River. It overlooks a heavily wooded ravine to the west. The present building contains a lounge, dining room, bar, kitchen, washrooms and a children's playroom.

In the proposed extensions, the present lounge will become the new dining room and a new main lounge will be built with a new kitchen, new bar and new facilities for children. New buildings will incorporate a swimming pool, locker rooms, badminton courts and artificially controlled ice skating and curling rinks.

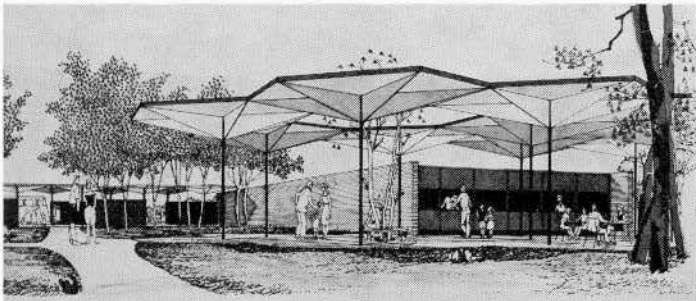


Hillcrest Country Club Extension Alberta

Architects and Engineers, K. C. Stanley and Company



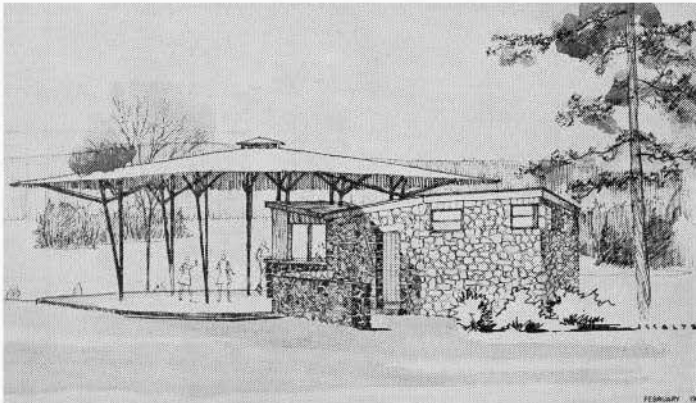
ARCHITECTURE FOR RECREATION



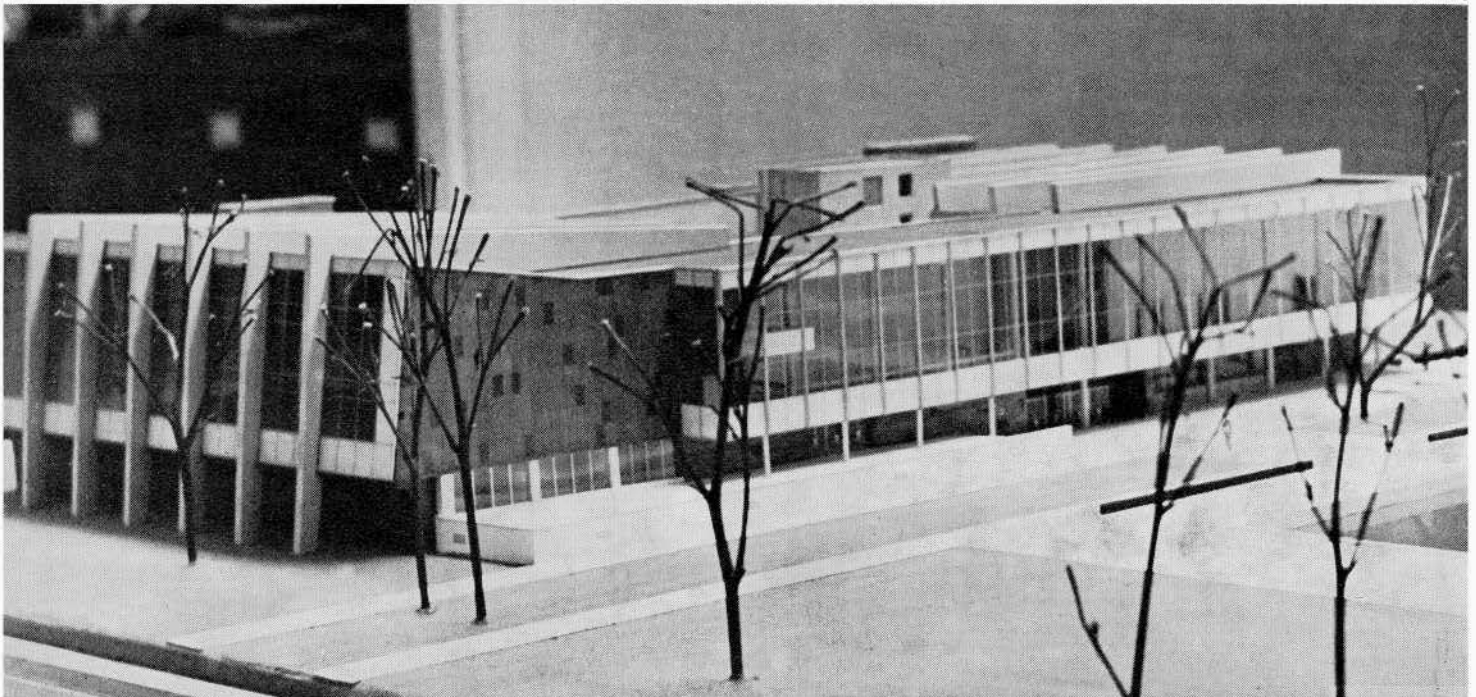
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4

IN THE ARTICLES which follow, one can get some idea of the sort of responsibilities the public servant assumes as the administrator of a park and recreation program. The buildings that a given program requires may vary with climate, as between say, Montreal and Vancouver. Their function will vary as between those required for local community use in a residential neighbourhood, those required for a regional park scheme where people would come for the day or for a week-end, and those required by travellers on an extended vacation in one of the major provincial or national parks.

In contrast to the recreation buildings of a generation ago, there is much more emphasis on the requirements for active sports and on the use of buildings by very large numbers of people for short periods of time. Those hotels, for example, built by the CPR, the CNR and CSL to luxurious standards for a limited group of travellers to enjoy the scenic beauties of the country, were built in an age that could not imagine the family car and the shack by the lake as standard elements of the Canadian scene.

There is also a new readiness on the part of the urban taxpayer to spend generously for good community centres and other recreation facilities, now that the cities have spread so far as to cover up what used to be the free open countryside. In such a situation the public servant has an important role as the developer of policy which has been laid down in general terms by the elected or appointed body to whom he reports, and also as an architectural client, acting on behalf of the public.

Three shelters for the Federal District Commission

- 1) *Hog's Back Park by Hart Massey, Architect*
- 2) *Hog's Back Park by Abra and Balharrie, Architects*
- 3) *Lac Philippe, Gatineau Park, Architect, Jean Issalys*

- 4) *Model of proposed Père Marquette Park Recreation Centre, Montreal, Architects, David & David*

AN URBAN PARK SERVICE

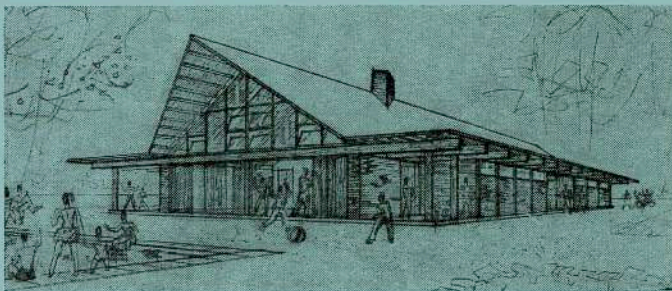
Montreal

MONTREAL'S MUNICIPAL PARKS are operated under the motto "Beauty for Recreation" which sets an ideal that has yet to be realized in many respects, notably in the architecture of parks buildings. Some of the existing buildings were designed to meet the needs of the moment without, perhaps, enough thought to appearance or future adequacy. Sometimes there is little of the vitality and the imagination that might be considered fitting to a program of beauty and recreation. But the parks program is relatively new and the dynamism that has been put into it has scarcely had time to be reflected in a vigorous architecture. That will undoubtedly come before long.

The whole concept of parks and recreation that is inspiring the Montreal program is the result of a North American approach to the problem of leisure in the age of automation. I say North American because it is almost exclusively on this continent that attempts are being made to supply facilities for constructive use of leisure against a background of beauty in public parks. Whatever the merits of joining parks and recreation, of having playing fields in the parks, we in Montreal are committed to this principle and must develop our program so as to preserve and enhance the beauty of our parks while permitting their use for games and sports.

This brings us directly to the matter of architecture. Parks which are to be used for community recreation need special planning, special development as to landscaping and special attention to necessary buildings. There must be the closest cooperation between the landscape architects and the architects, with the latter striving to fit their designs into the overall pattern prepared by the landscapers.

Parks buildings fall into certain basic categories: maintenance sheds and service buildings, comfort stations, shelters, field houses, recreation centres and restaurants. Sometimes there are greenhouses, sometimes swimming pools. All of these should be designed to conform to the general plan for the park.



New type of park shelter for winter and summer use

In Montreal parks a simple shelter contains two toilets and a room for maintenance equipment. A more elaborate shelter contains showers, dressing rooms and warming rooms as well as toilets and maintenance space, to comply with the Butler definition of a field house: "Primarily a service building for use of people using playfield or athletic field facilities, it contains showers, lockers, toilets and dressing rooms but not space for indoor activities" (George D. Butler, "Recreation Areas"). Until four or five years ago shacks were used for both shelters and field houses and, of course, for maintenance equipment. Today new structures that are more substantial and more pleasing to the eye are being erected.

Even in this respect a fairly rapid evolution is taking place. The first successor to the field house shack was erected in 1952 as a flat building of stone, wood and glass with removable wall sections for summer use. Within a short time a dozen of these

shelters were constructed, each with some improvement over the one before it. Flatness has given away to peaked roofs and the newest style of field house is graced with a steeply peaked roof projecting as in Swiss chalets out over the front and with longer eaves at the sides.

A number of specific problems have to be kept in mind when designing field houses for Montreal parks. These include the climate and the games that are most popular in the winter. There has to be heating to provide warm dressing rooms for hockey and broomball players as well as a warming room for skaters. There have to be electrical outlets for the lighting of the rinks and there have to be two-inch water lines to provide water for the flooding of the rinks. The field houses have to be located in such a manner that rinks can be constructed within 100 feet. This is to allow a short water line from the building to the rink to prevent the water from freezing in sub zero temperatures. The warming and dressing rooms require special flooring that can be used year around and won't damage skates or be damaged by them. Asphalt has been found to be the most practicable in this respect. Team rooms have to be equipped with cubicles that can be locked for the protection of personal effects while players are out.

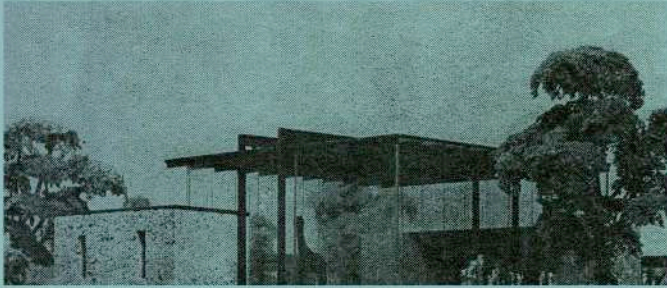
Some recreation centres, notably the Notre Dame de Grace Centre, and most of the bath houses are not situated in parks. These are buildings erected in the past to meet community needs of the moment and aesthetic factors were not always given full attention. The Notre Dame de Grace Centre was one of the city's first and most completely-equipped recreation centres. It contains a swimming pool, gymnasium, games rooms and rooms for a variety of other recreational activities. It fits into its surroundings on a street in one of the older residential sections of Montreal but it would scarcely be suitable if located in a park.

A new trend in recreation centres is to be found in the one designed by David and David for Père Marquette Park, a 32-acre park in a section of the city having almost twice the density of population as that served by the Notre Dame de Grace Centre. At Père Marquette Park the architects were asked to design a building that would contain a swimming pool and gymnasium as well as other rooms required for community recreation, having in mind the numbers that might be expected to use it. The plans adopted in principle by the city administration are designed with an eye to the easiest flow of people throughout the day. The building faces into the park and has a reflection pool in front. The main entrance is at ground level into a large hall containing control wickets, stairways to a glassed-in, two storey foyer running the length of the building. This will be the main public enclosure, and will have ramps to both the swimming pool, and gymnasium. The pool will be a regulation Olympic pool with bleachers at one side. It will be served by two sets of locker rooms and showers to permit one group of swimmers to be getting ready for the pool while another group is using it. Both pool and gymnasium are on the second floor. The gymnasium will be equipped for customary games and athletics, will contain a stage complete with dressing rooms and lighting and curtains, and will be convertible into a reception room served by a dumbwaiter from a kitchen at the ground level. Bleachers in the swimming pool and gymnasium will each accommodate 350 persons. The main mechanical area will be underneath the pool and the main heating and ventilating room will be underneath the gymnasium. Both areas will be generously glassed to enable the mechanically-minded to watch what's going on. There will be three ventilation zones: for the pool, the gymnasium and the rest of the building, each designed to take care of its particular problem. The heating system is designed to take care of two other projected buildings, a well-baby clinic and a library, and the electrical vault will be large enough to control the whole park development, including outdoor lighting and the two proposed buildings.

Other rooms required for the full recreational program of the centre will be at the ground level, accessible through the large lobby. There will be a domestic science room (which can

also serve as a kitchen for the preparation of food brought in by caterers for receptions), playrooms, arts and crafts rooms and a tool room. The exterior of glass, aluminum, concrete and native stone presents a light, airy appearance which is designed to fit into the general park landscape. The reflector pool will heighten the desired impression. A generous use of glass is also planned for the animal enclosures in the proposed Montreal Zoological Garden in Angrignon Park which, when completed, should be one of the world's greatest and most impressive zoos.

Before any design problems could be considered, it was necessary to determine the type of zoo and type of animal



Model of house for giraffes in proposed new zoo

collection which was to be exhibited. We did not feel that Montreal citizens would be satisfied with anything less than the best. Neither could we ignore some of the reasons why Montrealers wanted a fine zoo. These reasons include: The educational value of a collection of animals from throughout the world; the recreational value for all age groups which comes from a visit to the zoo; the opportunities a zoo presents for family participation, and the importance of this to the Canadian way of life; the economic value which will result from visitors attracted from Canada and the United States; cultural values; civic publicity which will come from having one of the best zoos on this continent.

The planners have sought to achieve these and other objectives in the following manner: the animal collections have been arranged on a continental basis. Animals from Africa will be exhibited in groupings. Asia will have its section, as will Australia, North America, South America, etc. No conglomeration of animals will confuse the visitor. The long lagoons will make a river landscape. The animals will be shown as a natural part of the river-scape. A system of moats and under-water barriers will allow the animals to roam in the seeming freedom of veldt or forest without the artificial restriction of bars.

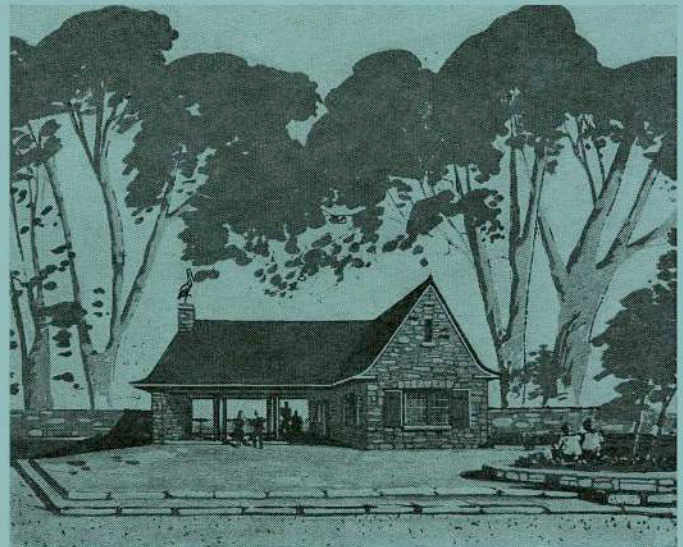
The buildings are glass, steel, and stone-walled pavilions. Within the buildings the public views the animals separated from them only by plate glass, some of which is electrified on the animal side. The buildings — glass on two sides — become transparent screens. It is as if the animals are as free in the landscape as they would be in a state of nature. The buildings, therefore, are simply those parts of the Zoological Garden where broad roof slabs, supported on slender steel columns, span the glass enclosures mentioned above to provide the controlled temperature necessary for animal shelter. From the great Hagenbeck Zoo in Hamburg, Germany, came the idea of sight lines which were expanded to include water, glass, stainless steel, and molded topography so that, in one sight line, African giraffes, lions, and zebras occur. In another, the Bengal tiger and the Indian elephant appear in the same landscape. This principle applies throughout the Zoo.

The building suggest the animals. The giraffe house is a vertical and attenuated glass shell, the paired columns slender and necklike. The monkey house, with its single column support, is like a jungle tree, and the animals themselves become a part of the architecture. The cadence of column and girder in the lion and tiger houses suggests cat-like agility and muscu-

lar strength. The zebra pavilion is a striped structure — like the stripes of the animal — and all occurring as a spontaneous consequence of a simple engineering means. The aviary, to cite one more instance, is supported on two exterior trusses and is seemingly as weightless as a bird; it houses, under glass, a tropical landscape over which is hung a continuous mezzanine as a public walkway among the flight of birds. This tree-high room is 200 feet long uninterrupted by any interior support.

Throughout the Zoological Garden the animals are seen from six vantage points: from the walks and terraces adjoining and connecting buildings; from within the buildings and through the buildings; from the three bridges which are promenades crossing the river; from the cantilevered balconies of the bridges, which actually overhang the animal runs and pits; from the river walks, where the animals are seen across the water on the far side and close at hand on the near; from the river launches or other boats which, operating for a small fare, will provide a walkless tour of the zoo. Because of this plan a new concept results. It is not merely that the animals are seen from these many vantage points, but much more importantly that the people, the animals, the buildings, and the landscape are merged and flow one about the other, becoming an integral creation. The observer becomes a protagonist in an unfolding drama. He becomes a part of what he sees.

The blend of architecture and landscape is carried into the design of restaurants which are becoming a part of the Montreal parks system. On St. Helen's Island, for example, where



Special children's entrance to LaFontaine Park zoo

the landscaping has been done with an eye to preserving certain historic buildings and memories, the main restaurant, the *Hélène de Champlain*, is housed in a large Norman-style house. The newest restaurant is in the Montreal Botanical Garden where a generous use of glass and native stone similar to that used in adjacent walled sections and terraces makes it part of the overall picture. The recreation being offered in Montreal parks is widely diversified and includes a Children's Zoo in LaFontaine Park. This has required certain specialized treatment from the architectural viewpoint. Many of the structures are in the fairyland genre and need not concern us here. However, the entrance has to be substantial and down-to-earth and for it we have selected a typical Canadian house which is now under construction.

Much of the beauty for which we are striving in our Montreal parks has already been achieved in buildings as well as landscaping. Much more, we are confident, is "just around the corner."

Claude Robillard, P.Eng., Director of Parks

AN URBAN PARK SERVICE

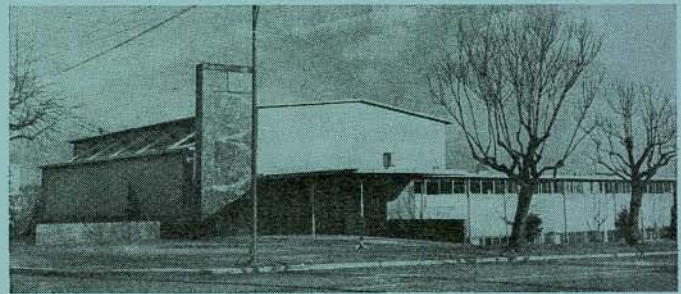
Vancouver

THE BOARD OF PARKS AND PUBLIC RECREATION of the City of Vancouver operates one hundred and twenty parks serving a population of approximately 400,000. There are many auxiliary buildings in the park system such as fieldhouses, restrooms, bathhouses, concession structures, zoo buildings, service buildings, etc., that are related to the provision of recreation but are not "recreation buildings" in the accepted sense of being used for active indoor recreation. For purposes of this article the term "recreation building" will be limited to community recreation buildings constructed to serve the general public with indoor recreation facilities. Buildings used for special recreation purposes such as indoor swimming pools, curling rinks, arenas, bowling alleys, etc. are also excluded as they represent individual problems of design and operation.

The shortage of adequate park areas and open recreation space in most of our Canadian cities has aggravated the problem of providing building sites for all types of recreation buildings. The large ground area necessary to house a community recreation centre or indoor swimming pool or ice arena and its necessary car parking is usually most difficult to find when consideration is being given to the construction of such a building. All too often an established open space or small park is coveted as being the logical site because of its availability and location and as a consequence, existing park and open space available for the enjoyment and recreation of the public is further reduced. Many special recreation buildings such as indoor swimming pools and arenas should be restricted to commercially zoned sites, and suitable properties purchased to

construction. A great deal has been learned about designing the centres for effective and economic operation since the original unit was opened.

Many basic problems should be settled before design details are considered. The total amount of capital that can be provided for the building should be determined. Factors influencing the raising of the money such as the average yearly tax increase in the community and other local considerations have to be settled. The building site must be carefully selected for location, size, suitability and relation to existing open space. Park area, landscaping, set-backs and building area for a 25,000 square foot building usually requires a minimum of 60,000 square feet. Consideration must be given to the effect of the structure on adjacent residential areas as to their loss of view, appearance of the new building, annoyance from parking in front of their homes, noise from activities, etc. Future expansion of the structure by additional buildings should also be considered. Provision should be made in the original capital budget for architect's fees, landscaping, parking areas, furnishings and miscellaneous capital costs that always arise. City by-laws governing zoning, building regulations, permits and other matters must also be taken into account.



Kitsiland Community Centre



Kerrisdale Community Centre

make room for the development, rather than sacrificing existing open space and park lands.

Indoor public recreation buildings in the Vancouver park system are called "community centres" and contain approximately 25,000 square feet with a full sized gymnasium-auditorium, hobby and craft rooms, meeting rooms, caretaker's quarters, etc. The city has been tentatively divided into fifteen "communities" of approximately 30,000 people for purposes of constructing community centres. Financing is accomplished by the placing of a local improvement money by-law in a community, providing the local community association has raised \$20,000.00 towards the construction cost. The Board of Parks and Public Recreation add another \$20,000.00 to each fund and provide a building site on a city park in the community. The Park Board operates the centres, in co-operation with the local community association, and provides a recreation program for all ages and both sexes. The first community centre was opened in Vancouver in 1949 and four more centres have been completed since that time with a sixth presently under

The multiple use community in Vancouver include the following facilities: a gymnasium-auditorium, 60 by 90 feet with a 20 foot clear ceiling and a portable stage for auditorium purposes, entrance lobby and lounge, director's office, at least two meeting rooms to accommodate 100 to 200 people, a kitchen situated to serve at least two rooms, an auxiliary games room for gymnastics, etc., hobby and craft rooms with movable partitions, kindergarten room, restrooms on each floor, check room next to office, storage facilities for portable stage and auditorium chairs, storage rooms for gym apparatus and equipment and a separate storage room and a coat rack for each large area, dressing rooms accessible to the gym and to the outside, and a caretaker - janitor's quarters.

Operating problems that arise from the necessity to use a minimum of staff must be thoroughly considered in detailing the structure. The full time staff of our centres consists of a director, assistant director, secretary and a caretaker. Control of most of the building from the office should be made possible by the careful arrangement of entrances, halls, stairways and doors. Floor coverings, wall finishes, plumbing, hardware and other detailing should allow for rough use and minimum maintenance. Gym walls should be free of all breakable objects and multiple use as an auditorium necessitates the provision of an acoustic ceiling. The gym floor should have practice cross basketball courts with 8' x 10' baskets, 2 practice cross volleyball courts, 4 badminton courts and a regulation basketball court with 10' fold-back baskets. Craft rooms should be provided with adequate sinks, counters, shelves, cupboards, and peg-board walls. Meeting and assembly rooms should not be placed under the gymnasium because of the noise problem. Caretaker's quarters should be located to give privacy and freedom from noise. Outside access for the kitchen and the caretaker is desirable. Provision for garbage storage and col-

lection and incineration of combustible waste should be made. Ample electrical outlets, adequate plumbing, heating, lighting and ventilation are essential to the successful use of a multi-purpose recreation building.

The foregoing details are not by any means complete but they do illustrate the necessity for thorough and experienced planning of a community recreation building that is to serve many public recreation uses. Consultation with recreation officials who will be responsible for the operation and maintenance of the building is essential in the planning of a successful centre. The providing of community centre structures that fill all of the requirements and remain a credit to a community aesthetically is a distinct challenge to architects. The need for adequate recreation buildings to serve our expanding metropolitan populations is increasing each year with our increased leisure time.

*Stuart S. Lefeaux, P.Eng.
Deputy Superintendent
Board of Parks and Public Recreation*

Spring planting in Rockcliffe Park, one of the oldest established areas designed and maintained by the FDC.



A REGIONAL PARK SERVICE

Federal District Commission, Ottawa and Hull

THE ORIGINAL CONCEPT of the National Capital Plan was that the metropolitan area should be a beautiful and impressive seat of national government, and that it should be a good place in which to live.

To achieve this, all the skills which go into city planning were brought to bear. Wide bands of land were dedicated for open and wooded strips along the water courses, the main traffic arteries, the railroads, and the industrial areas. Blocks of land were set aside for the construction of public buildings and institutions. The boundaries of a large "country reservation", Gatineau Park, were set. The outlines of a greenbelt were proposed.

Some difficulties arose early. The Federal District Commission did not feel that federal funds should be spent on projects which were devoted to purely local recreation. The Commission, however, was in possession of strategic water front and other lands which any individual city, in the course of planning, would develop for public use as playgrounds and bathing beaches. This is being resolved by co-operation between the FDC and the local authorities, the Commission leasing to the municipalities for more intensive development, the most strategic of these lands. Safeguards concerning the use of the land, the preservation of character, and the appearance of the structures are written into the leases. In this manner the City of Ottawa is undertaking the construction of a beach, buildings, parking areas, and park lands on Commission-owned land at Mooney's Bay beside the Rideau River. It is expected that the City of Hull will undertake a similar project at Leamy Lake.

In order to assure that the Master Plan will not be frustrated in the future, due to rising costs of land, the Commission has acquired the necessary acreage where parkways, building groups and other units are proposed. Many of these areas will not be fully developed for quite a number of years. In the meantime, fence rows are being opened, boulders cleared and the grass cut to medium length by high speed equipment.

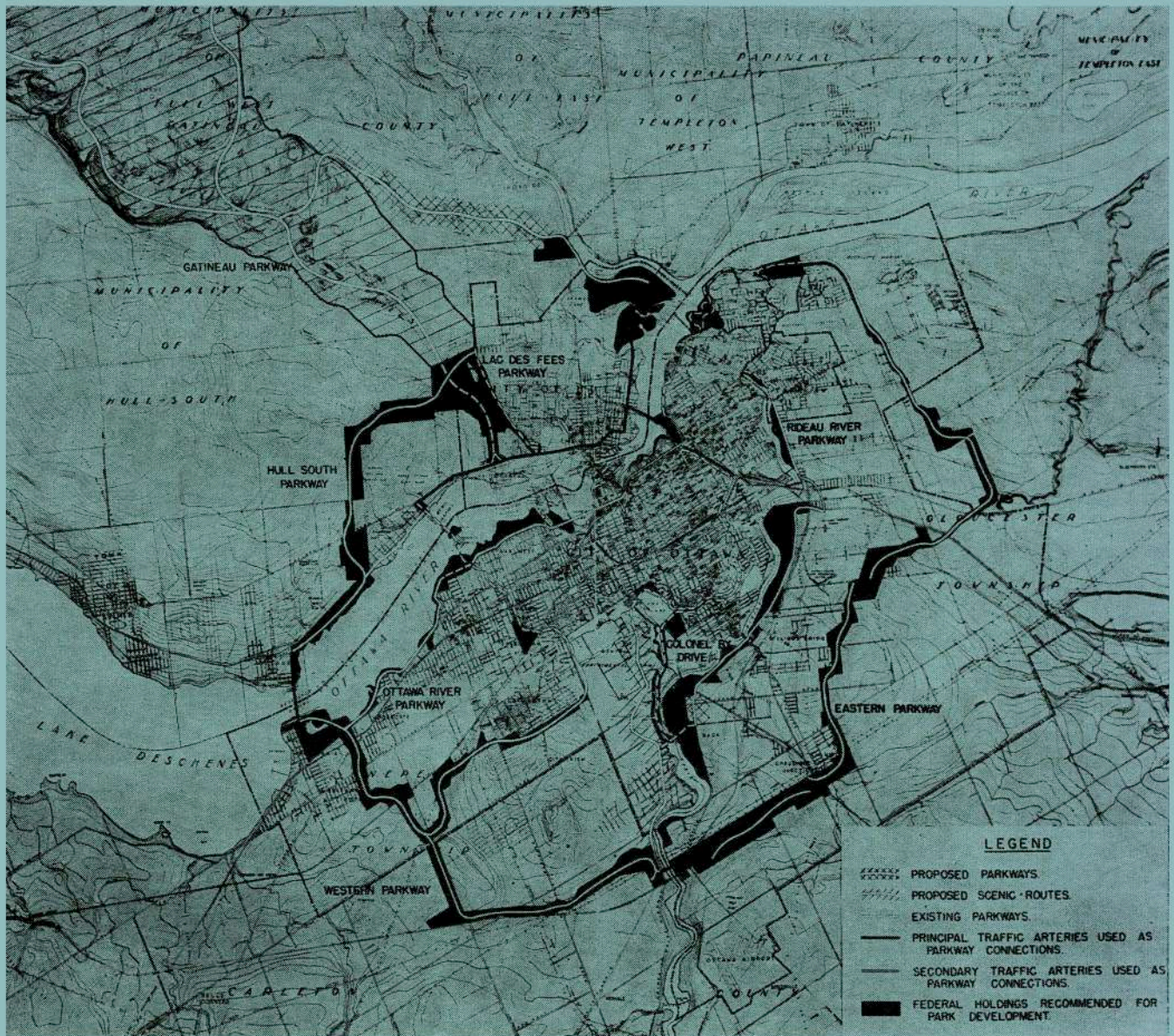
It is hoped to do a limited amount of tree planting, to construct some rudimentary paths and to encourage the general public to use these blocks of land in the manner of the old English common.

The proposed greenbelt is a band of land from two to four miles deep around the metropolitan area. The inner boundary was largely set at the end of what is considered to be the economic and practical limit of civic services; and was arranged in such a manner that it would contain the maximum population desirable in the Capital, about 600,000. It will limit the otherwise inevitable ribbon development along highways and prevent the formation of rural slums. It is hoped that building beyond the greenbelt will be in the nature of new villages and towns.

A true greenbelt is not an open park space. Part of it may be devoted to parks. The rest will be composed of farms, small agricultural holdings, institutions, libraries, churches, public office buildings, light industries, sports fields and other uses. The predominant theme is the limitation of land coverage by structures to a very small percentage of the total and the retention of an agricultural character.

Decentralization of federal departments and agencies has become a policy of the plan. Some years ago, the National Research Council began building five miles east of the Parliament Buildings on the Montreal Road. The second group of buildings, now nearing completion, is Tunney's Pasture, two and a half miles west, on Scott Street. A third group, Rideau Heights, is currently rising four miles south on Riverside Drive. Up to the present, ten such sites are in various stages of progress. When completed, each will house thousands of workers.

Each group has been located having regard to city traffic,



National Capital Plan — Areas planned for recreation and park land are shown dark; these areas are now being bought and brought into their designated use.

accessibility to housing, and the general plan. Each site has been planned with the buildings well related to each other. Architectural composition from various approach angles and from the general aspect of the skyline has been studied. The overall road plan within each group and the disposition of the parking areas has been carefully planned.

Ample space has been provided for each building so that a feeling of freedom of movement is felt. Notwithstanding the distance between buildings, unity is achieved by skilful grading of lawn areas and the planting of large-sized trees in scale with the height of the buildings and the large areas covered. The use of the usual size of nursery stock would appear ridiculous in scale and would take years to achieve a finished effect. The relative cost of the larger trees is small.

Among the wider land acquisitions along a water course, is Hog's Back Park. This open land on the east bank of the Rideau River is just north of Hog's Back, four miles from Parliament Hill. It adjoins the Rideau Heights building group where, within the next six years, over eight thousand people will be employed. It will be available to them at lunch hour and after work. At the south end is a bathing beach and a lake

for boating. These are served by a boathouse, refreshment stand, rest rooms and parking areas. Hiking trails lead to the falls and to overlooks which direct views down the river and across the top of the city to the Peace Tower. Construction on this part started three years ago and is now complete. Hiking trails to the north connect with picnic and recreation fields.

The largest social function of each government department's year is the annual picnic. Nowhere in the National Capital area is there a sports ground adequately equipped to take care of these outings which can easily rally an attendance of two thousand people.

The north end of Hog's Back Park, now under construction, is being prepared to fill the need. The picnic ground is divided into two main levels by natural topography. Each has well-wooded land for picnic tables and open land for sports. The upper level has been designed for the departmental affairs and the lower for family gatherings. Facilities for field sports, soft ball, folk dancing, and hiking are also provided.

It is a paradox that where land is under heavy use, the best means of conservation are those which "lay waste". It is often preferable to completely sacrifice a small part of a park to

best prevent the greater part from becoming an outdoor slum. There is no doubt that every family would like to drive right to their own picnic table and that they would like that table to be informally placed in a secluded nook. With five hundred cars expected at one time, this is patently absurd. In no time the complete area would be a shambles. Mothers would be frantic for the safety of their children. Lawns would be cut up, trees would die from soil compaction and the very presence of the cars scattered through the property would destroy the beauty which everyone came to enjoy. Consequently, an adequate area was "laid waste" for parking and all motor traffic, including delivery trucks, was confined to the area.

In order to remove the cars from the gaze of the general public, heavy border screen plantations have been made. A central island with a walk running between trees has been constructed so that a family may proceed to the picnic areas free from traffic worries. The bus stop and the loading bay for passenger cars are separated so that no confusion at arrival and departure time will result. Provision is being made for bicycle racks. Situated on the main cross axis and near the parking area is the refreshment stand. Between it and the trail along the river, are the rest rooms. Thus all structures are centrally located.

Picnic tables range in size from seven to sixty feet long. All have wooden tops and seats. Most have fixed concrete legs and an asphalt mat beneath them so that both comfort for the diner and ease and economy of maintenance are taken care of. Again, in order to conserve the woodlands, these tables are set in orderly batteries at a spacing of twenty by twenty-five feet. As a result, each activity has sufficient and unobstructed room for itself.

The structures in Federal District Commission parks are unique. For years it has been a cardinal principle for the design of park structures that they should be unobtrusive and blend completely into the surroundings. While this may be true in many cases, the Commission takes into account the use that is to be made of the land. For instance, swimming, picnicking, and playing games, are happy carefree occupations and it is believed that the necessary buildings should contribute to that spirit. Hence, three years ago, when Watson Balharrie, of Ottawa, was presented with a problem of designing a refreshment stand, a shelter, and rest rooms at Hog's Back as a unit, his instructions with regard to character were "Make it light, colourful, and whimsical as in the Festival of Britain". Hart Massey, also an Ottawa architect, has designed in a different part of the same park, a series of imaginative buildings which are individual in themselves yet clearly belong to the same owner. Jean Issalys, of Hull, is producing a refreshment stand and shelter at Lac Philippe in Gatineau Park essentially the same in outline, but reminiscent of the habitant style; a concession to the forested character of the surroundings is the use of timber for structural members rather than steel.

Visitors from all over Canada flock to the National Capital. Travellers and emissaries from foreign countries gravitate to the seat of government. It is important that the Capital should tell them the story and background of this country.

The story of our mines and natural history can be told by the National Museum. The story of our agriculture can be told by the Central Experimental Farm. The story of our culture can be told by the National Gallery and the National Library. The story of our people can be told by the National Archives. The story of our taste and wealth can be told by our public buildings. But nowhere in the urban area can any visitor receive an impression of the size of this country and its great open spaces which gives the feeling of freedom and room to move.

Gatineau Park is a reservation running northwesterly on the Quebec side of the Ottawa River. It is now approaching fifty thousand acres in extent. The ultimate goal is about eighty thousand. The park rises from the Ottawa River level to an elevation of over thirteen hundred feet on the Laurentian escarpment overlooking the Ottawa River Valley. Since it is the oldest geological formation in the world and its hills have

been glaciated, its summits are well rounded. Much is covered with woodlawns, but large areas along the escarpment are bare. In order to make this land accessible, a fifty-mile parkway is proposed. When completed, it will be possible to leave the Parliament Buildings and be in virtual wilderness within fifteen minutes. Several crossroads will be built enabling the motorist to use loops of various distances according to his fancy. Lakes and streams abound. Deer, bear, porcupines, racoons and other wild animals are plentiful. Fishing is good. Beaver dams and ponds provide points of particular interest. Varied rock outcroppings and old shorelines are indications of the natural history of our country. Eventually, many picnic and camping grounds will be opened. Hiking and riding trails will be extended. An historic village will be reconstructed and points of natural history will be illustrated. For the present, the emphasis on development is for the Parkway itself. Five miles have been completed and six more are under construction.



Champlain Lookout, Gatineau Park

It was early realized that this parkway could not compete with the grandeur of the Rocky Mountains or the lushness and floral qualities of the Great Smokies. However, many different types of scenery were available. For that reason, it was decided to take advantage of every bit of variety which presented itself and to go out of the way to find it. The Parkway is not in any sense a through road between points. Immediately out of the city, it starts to climb through the gentle valleys. Advantage is taken of rock cliffs as termini for vistas. Now and then open meadowland is crossed. Overlooks are perched on the high shores of lakes. Clear cutting is done to achieve long vistas. Thinning of trees brings a swamp to attention. Throughout a distance of two miles the road climbs and winds through close woods until the effect is almost monotonous when, suddenly, a great slash through the trees opens an awe-inspiring vista. A sheer drop of a thousand feet below lie the flat alluvial farms of the Ottawa Valley. The great river with its sweeping curves can be seen for miles; beyond are the rolling farmlands of Ontario; behind are the forested, domed hills of the Province of Quebec.

Here lies land typical of a great part of our country. Here, for the first time, a visitor to the National Capital can appreciate the size of this nation and feel its greatness.

*Edward I. Wood, MCSLA
Landscape Architect FDC*

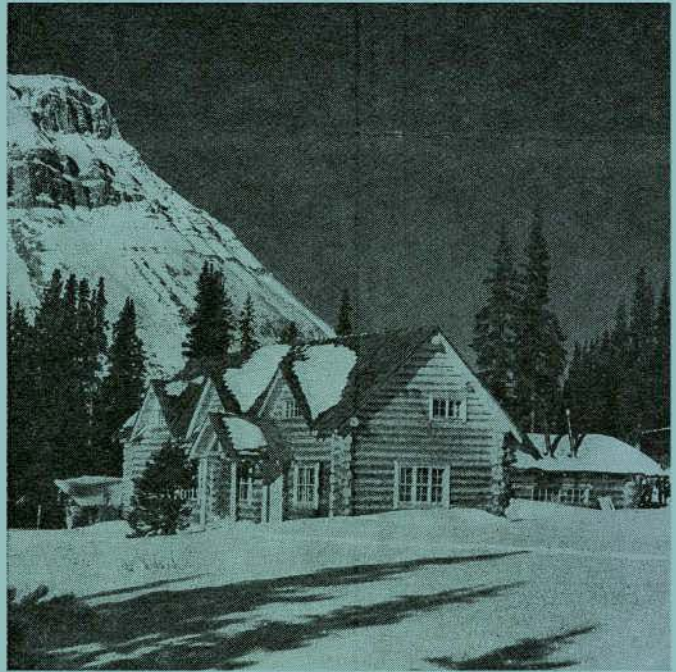
THE NATIONAL PARKS SERVICE

NATIONAL PARKS REPRESENT AREAS of outstanding scenic beauty which have been set aside for the perpetual use and enjoyment of the people of Canada. The primary concern of the National Parks Service of the Department of Northern Affairs and National Resources is to ensure that maximum use and enjoyment of the parks by visitors is balanced by vigilant preservation of the natural wildlife and landscape, together with adequate control of man-made developments.

In addition to serving as natural museums where the native trees, plants, animals and birds may be viewed and studied in natural surroundings, the parks also serve as recreational areas on a wide scale. The provision of recreational facilities embraces outdoor activities in which very large numbers of people can participate; as a matter of policy, amusements of a carnival or resort type are not authorized. It has never been the intention to attract visitors to the parks solely to use their man-made recreational facilities, or to develop the parks in such a way that they become large-scale playgrounds. Travel, observation, and photography are among the most important outdoor recreations, and the main policy of development (of which recreation is but a part), is directed towards preserving the natural beauty of the area. This policy accounts for the approach adopted both in planning and building design, where the most successful work results in a restrained and straightforward development, harmoniously blended into the natural setting. Some people believe that all buildings and development are intrusions into the parks, whose natural state cannot be improved upon by the introduction of man-made creations. Others, while agreeing that some buildings may be necessary if only for reasons of accessibility and administration, argue that all buildings should be designed and located to be as inconspicuous as possible, a programme in fact, of camouflaged development. These views however fail to recognize that the parks are not set aside as static monuments but are active living areas containing many people and communities. It is generally accepted that buildings can, by careful attention to siting, topography, and design, enhance an area or view without being either obtrusive or domineering.

From the time that the Hot Springs at Banff were first set aside for preservation and public use in 1885, the National Parks system has grown until there are now eighteen National Park areas under federal administration in nine provinces. The park areas range from the vast mountainous regions of Banff and Jasper National Parks, covering thousands of square miles, to the relatively small but intensely interesting areas comprising Point Pelee or the St. Lawrence Islands Parks. The task of providing technical service to the parks is the responsibility of the Engineering Services Division of the National Parks Branch with headquarters in Ottawa, and field offices at Banff and Halifax. This Division, in addition to engineering, maintenance and restoration, deals with design work, primarily for housing, administration and service buildings. For practical and administrative reasons, the National Parks has adopted a policy under which the provision of accommodation, restaurants and certain types of recreation buildings is entrusted to private enterprise and the sites required are made available under lease.

Many of the buildings erected during the early days of the parks are either of log or stone construction. Though primitive in design and in many cases not too functional, they are typical of early pioneer building. These early buildings represent a proud record of this period of park history. But in the almost universal use of a particular form of construction lay the hidden danger that this single style of architecture would come to be considered the only one appropriate in the parks for all time. This attitude has resulted in buildings attempting to



Skoki Ski Lodge, Banff National Park, a building designed in what was for many years the vernacular style of Park architecture.

imitate log structure while using modern methods of construction. Even worse has been the attempt to adopt internal layouts contemporary in design, functional in materials and use, with a cladding of exterior architecture in traditional style.

Architectural style is still the subject of controversy, but in many of the buildings of recent years there is evidence of a gradual but clearly discernible change in design approach. There is a realization that the traditional forms of construction and design are not necessarily the only style capable of producing buildings at home in the environment of a park, and that the flexible and diverse forms offered by more contemporary architecture can be successfully used in almost any circumstance or location. First, of course, it has to be recognized that there is such a thing as a modern aesthetic that is not achieved merely by leaving off the traditional forms and decorations and also that the use of buildings in the parks is not merely to ornament the landscape. There exists a case for buildings as architecture.

Many of the most popular types of accommodation and recreation in the National Parks require little in the way of service or buildings. Provision of camp sites, trailer parks, picnic grounds and bathing beaches are mainly problems of the careful selection of site and landscape rather than of architectural design. Small buildings which provide such necessary services as kitchen shelters, comfort stations and refreshment stands pose the problem of combining these functions in one building wherever possible, rather than erecting a cluster of trivial buildings. Camping areas and bungalow camps are extensively used but, because of their utilitarian nature, may detract from the appearance of the area. The policy of siting such developments is, therefore, to choose a location that will satisfy administrative requirements without spoiling the view or the full enjoyment of camping.

Buildings concerned with athletic activities cover a wide range from golf club-houses to tennis pavilions. Most of these, however, have been established for some time so there has been little recent construction in this field. A number of bathing establishments, incorporating swimming pools, have been built in recent years — among them the Aquacourt at Radium Hot Springs in Kootenay Park and the Jasper Townsite Pool in Jasper Park, both designed for the National Parks Branch by private architects. Winter sports like skiing, skating and curling are increasingly popular, and have resulted in the con-

struction, this year, of an international class 80 metre ski-jump at Mount Norquay in Banff Park. A judges' stand is planned for next year.



Model of proposed Judges' Stand for Mount Norquay ski jump at Banff National Park. Construction in glued laminated timber.

Administration and development of the National Parks calls for constant attention, especially in resisting any uses foreign to the nature of a park or threatening the basic policy of conservation. The controls imposed are designed to ensure that all possible land remains for public use and enjoyment and is free from exploitation or restriction in use by a minority of people. This makes the problem of attracting and selecting the best type of concessionaires a difficult one at times, as developers may be required to invest a considerable amount of capital with the prospect of a short tourist season in an isolated location. Nevertheless, some excellent buildings have been built.



Alexander Graham Bell Museum, Baddeck, N.S.

Not all development in the past has been good. In many cases day-to-day administration has outweighed long-term planning. As a consequence some scattered and unplanned development has taken place, especially in small bungalow camps. It is a lengthy and gradual process to clear away these less desirable areas and, as a consequence, difficult to attract

private interests even though the holiday accommodation is badly needed. In such areas the National Parks Service itself may assume responsibility for providing the type of accommodation required. A Planning Section, recently established, is responsible for long-term planning and for coordinating the many separate interests in parks development. This is of such fundamental importance that to implement it requires the services of engineers, architects and planners. The success of such work depends largely on the cooperation of all professions who share in the overall development of the parks. Administrative functions in the parks cannot, for example, be kept separate from the design of a building or the development of an area. So many decisions have to be made in adapting park sites for enjoyment by the public – while adhering strictly to the policy of preservation – that it is vital that decisions be made with a broad understanding of the aesthetic and technical considerations.

In addition to being charged with the task of preserving, administering and developing the areas that make up the scenic and recreational parks, the National Parks Service is responsible for certain areas of historic or scientific significance. This involves preserving or restoring historic buildings that are part of Canada's historic heritage. Establishment of museums of science or history is a field where much development is possible. A recent example is the imaginatively conceived museum at Baddeck, commemorating the work of Dr Alexander Graham Bell. The work of the National Parks Service continues to expand with the establishment, this year, of Terra Nova National Park on the northeast shores of Newfoundland. Development has begun with the preparation of a master plan in model form which attempts to encompass a long-term programme. Architectural design for the buildings in the new park provides both opportunity and challenge in the use of contemporary design and modern construction techniques.

In its own work, and in its responsibility towards private construction, the National Parks Service is endeavouring to create a tradition in design and development that will be a worthy contribution to the history of Canada's National Parks.

The Journal is indebted to the Department of Northern Affairs and National Resources for the preparation of this article and photographs.

Sudbury Mine Mill Camp Richard Lake, Ontario

Architects, Fabbro and Townend

General Contractor, Rayvor Construction Ltd.

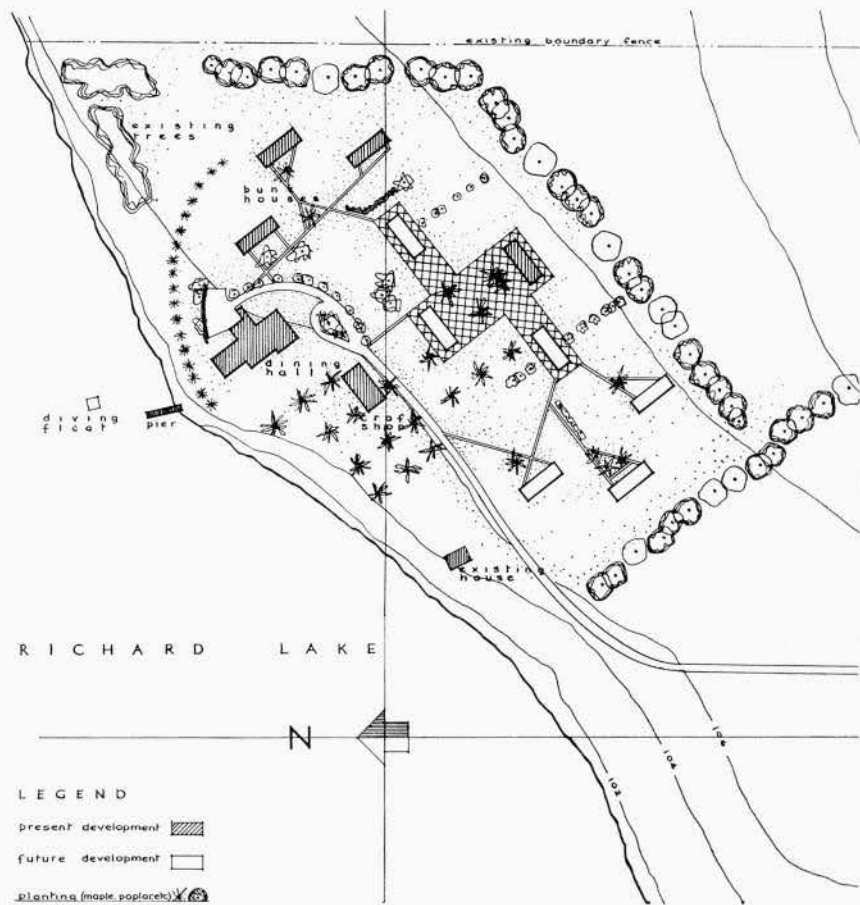
The camp is located on Highway 69, approximately 6 miles south of Sudbury on Richard Lake. The property consists of approximately 30 acres of land sloping gently down from the Highway to the lake. The buildings were constructed by the International Union of Mine, Mill and Smelter Workers as a summer camp for children of Union Members.

The present accommodation allows for one hundred children sleeping in five bunk houses with an additional five units proposed for future construction. The main lodge serves as dining and recreational area and sleeping accommodation for camp supervisor's family and kitchen help.

The structure is based on a frame of concrete pier foundations, exposed laminated beams and plank deck; walls are wood sheathed and floors covered in vinyl tile.

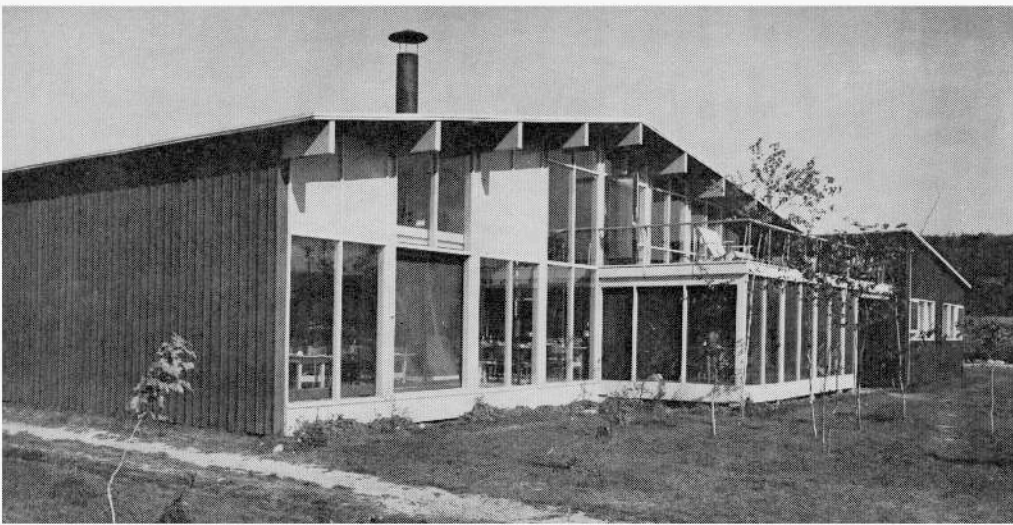
The cost was approximately \$40,000.00.

Interior of main lodge



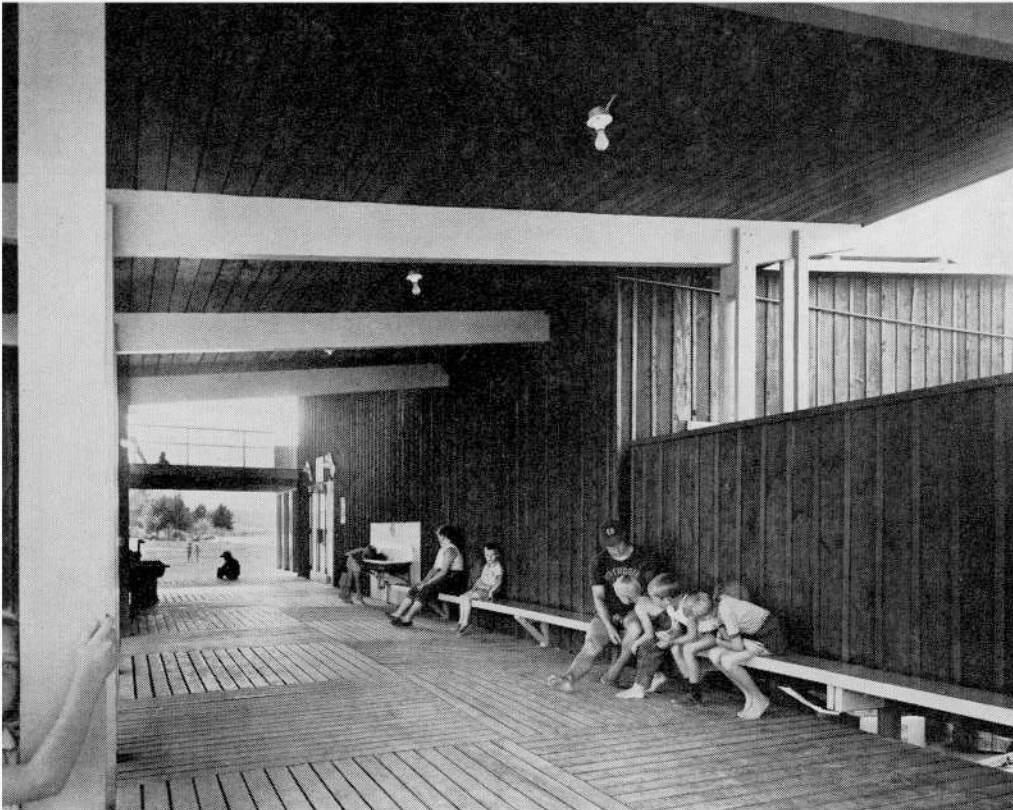
HUGH ROBERTSON-PANDA





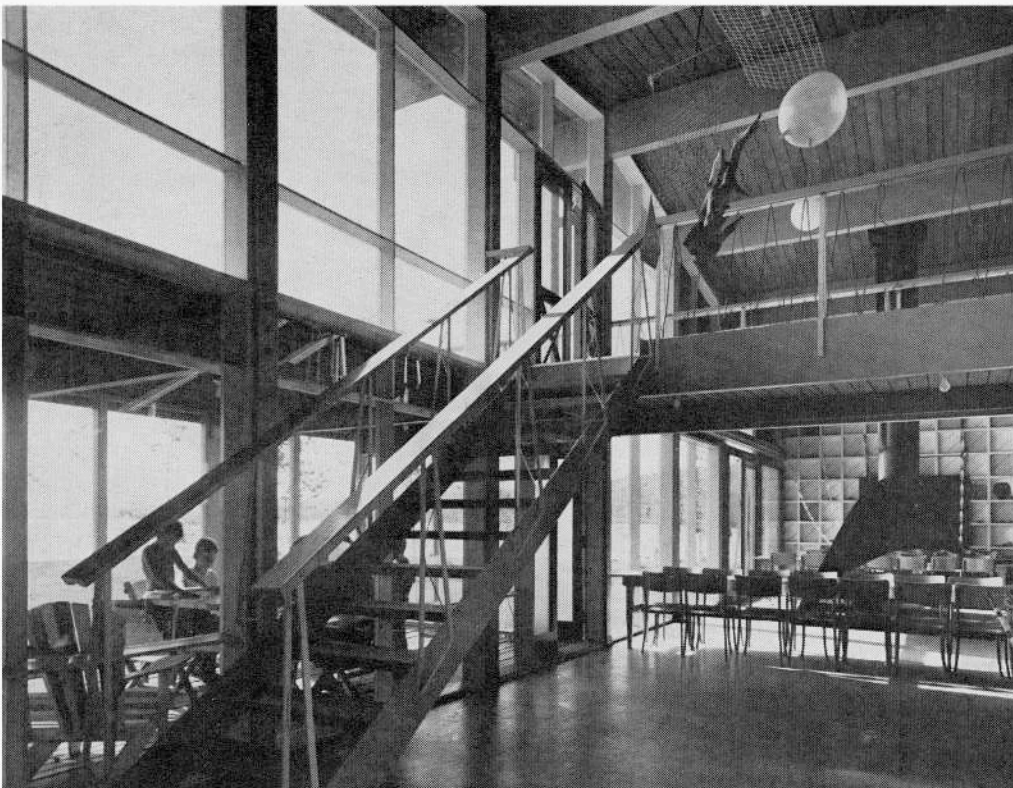
HUGH ROBERTSON-PANNA

Main lodge from lakeside



HUGH ROBERTSON-PANNA

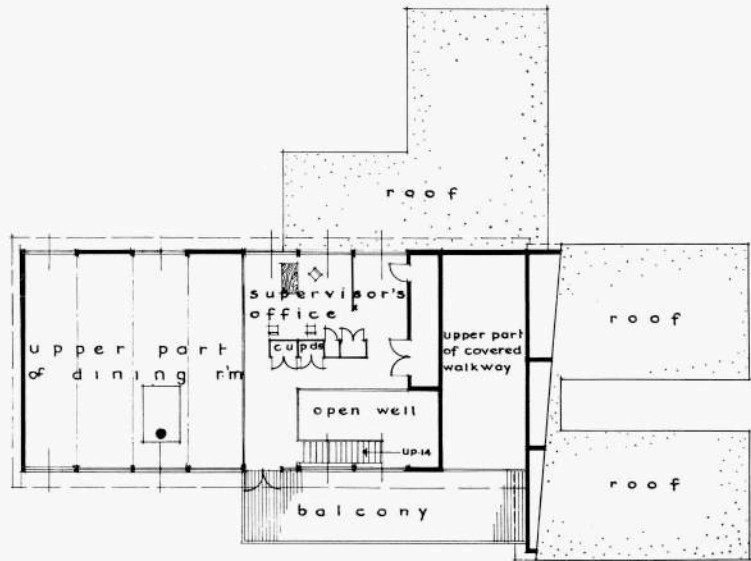
Covered walkway of main lodge



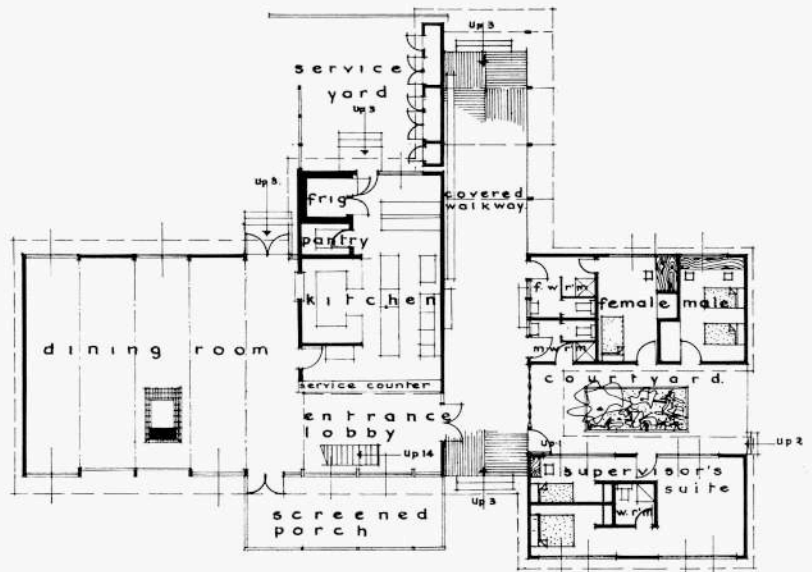
HUGH ROBERTSON-PANNA

Main lodge showing dining area below and stair to supervisor's office

Plan of balcony

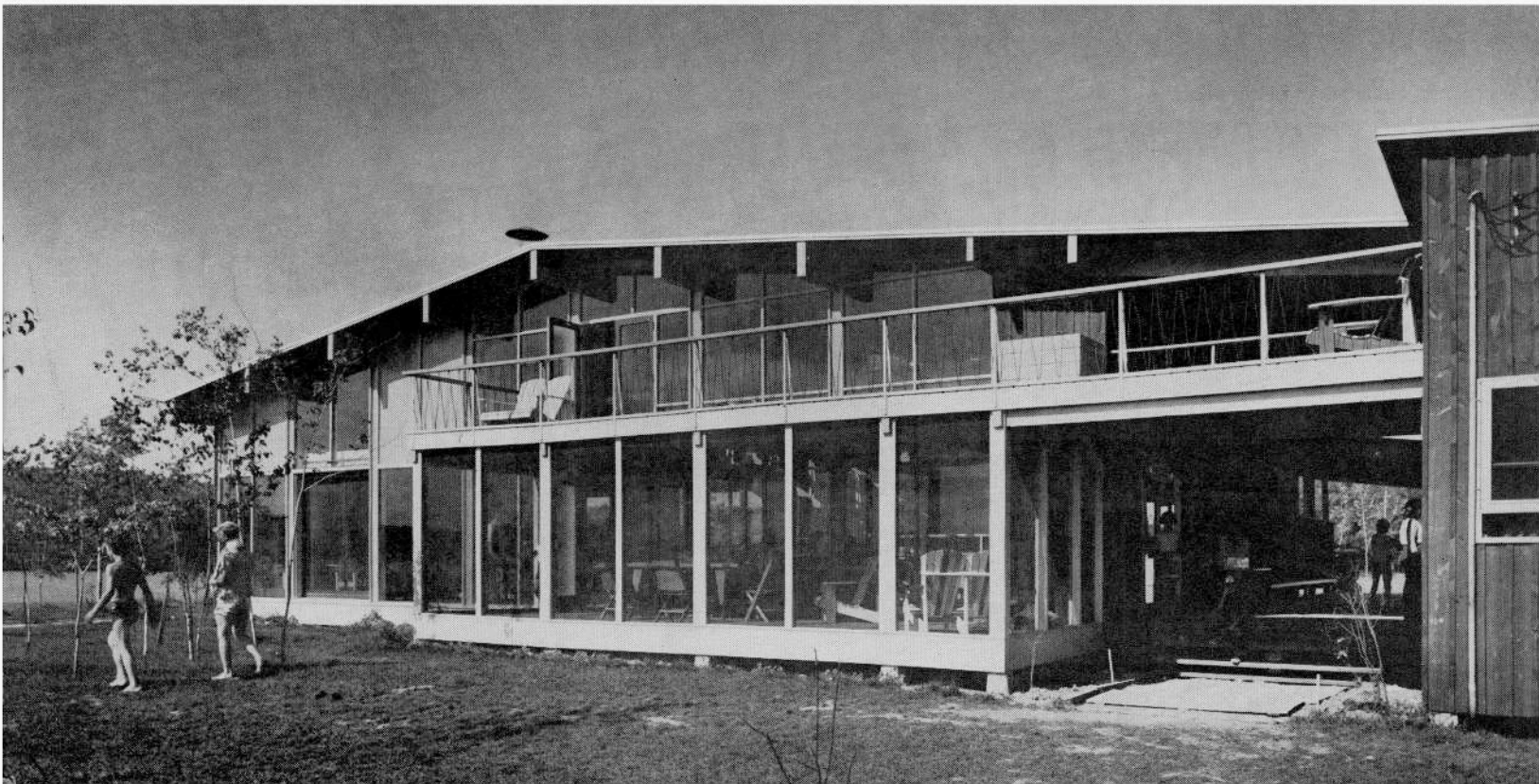


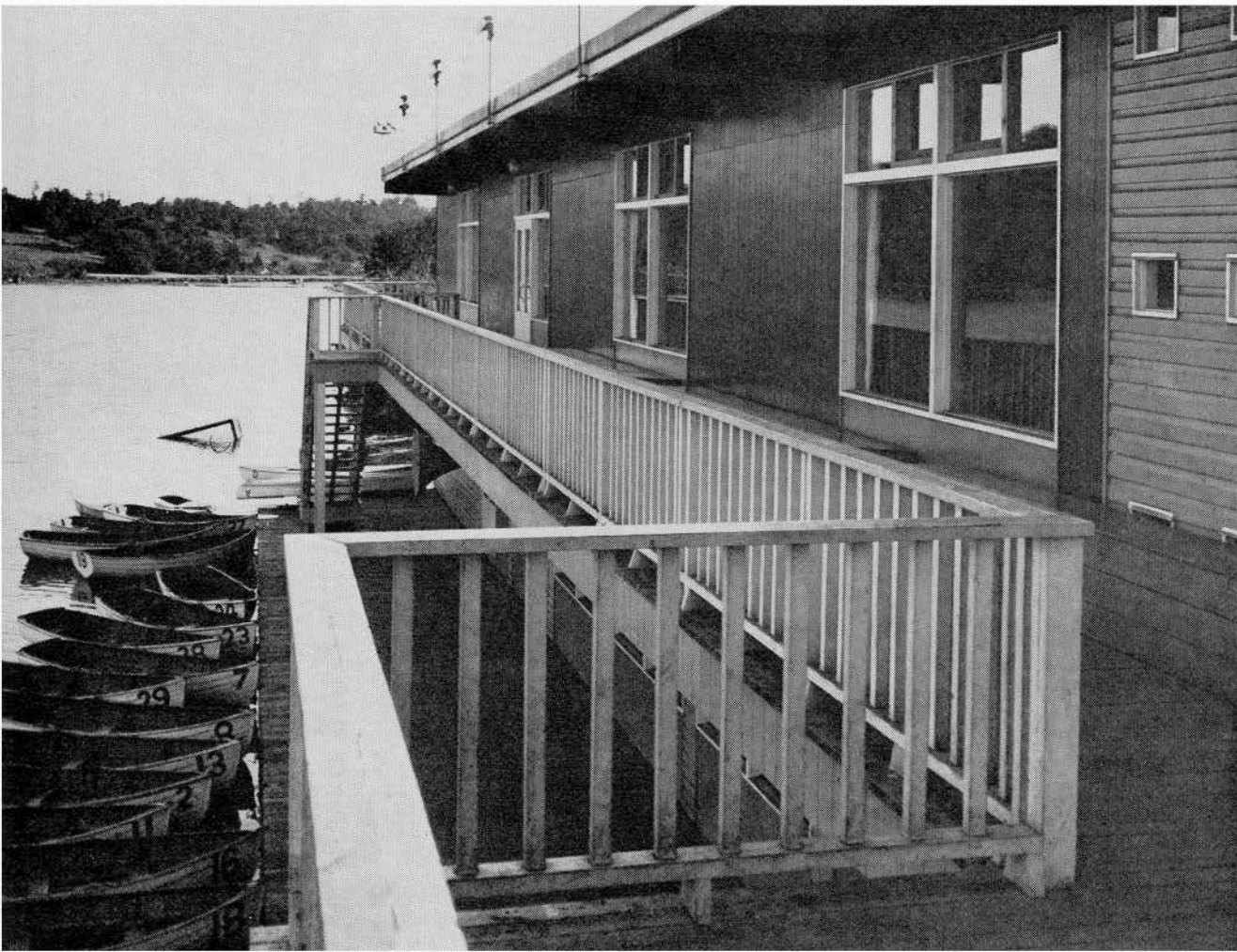
Ground floor plan of main lodge



West elevation of main lodge with covered walkway

HUGH ROBERTSON-PANDA





CLIMO

View of Pavilion's observation gallery from bandstand

Lily Lake Pavilion Saint John, New Brunswick

*Architects, Ross, Patterson, Townsend & Fish,
Maritime Office*

Lakeside view of Pavilion

Lily Lake Pavilion is located in the City Park at the edge of a large artificial lake. Activities include boating, swimming, play grounds, skating in winter, for which the changing, checking and washroom facilities are available. The balcony and canteen serves both onlookers and participants. The upstairs provides for a dance hall, a supervisor's apartment and a club room for the Fish and Game Association.

The structure of the building is entirely of wood, the more important columns and beams are of laminated fir with metal connectors. Finishes are plywood, sheetrock and asphalt tile. It was possible to lower the lake during construction so that all excavation and pouring of concrete could be done under dry conditions.

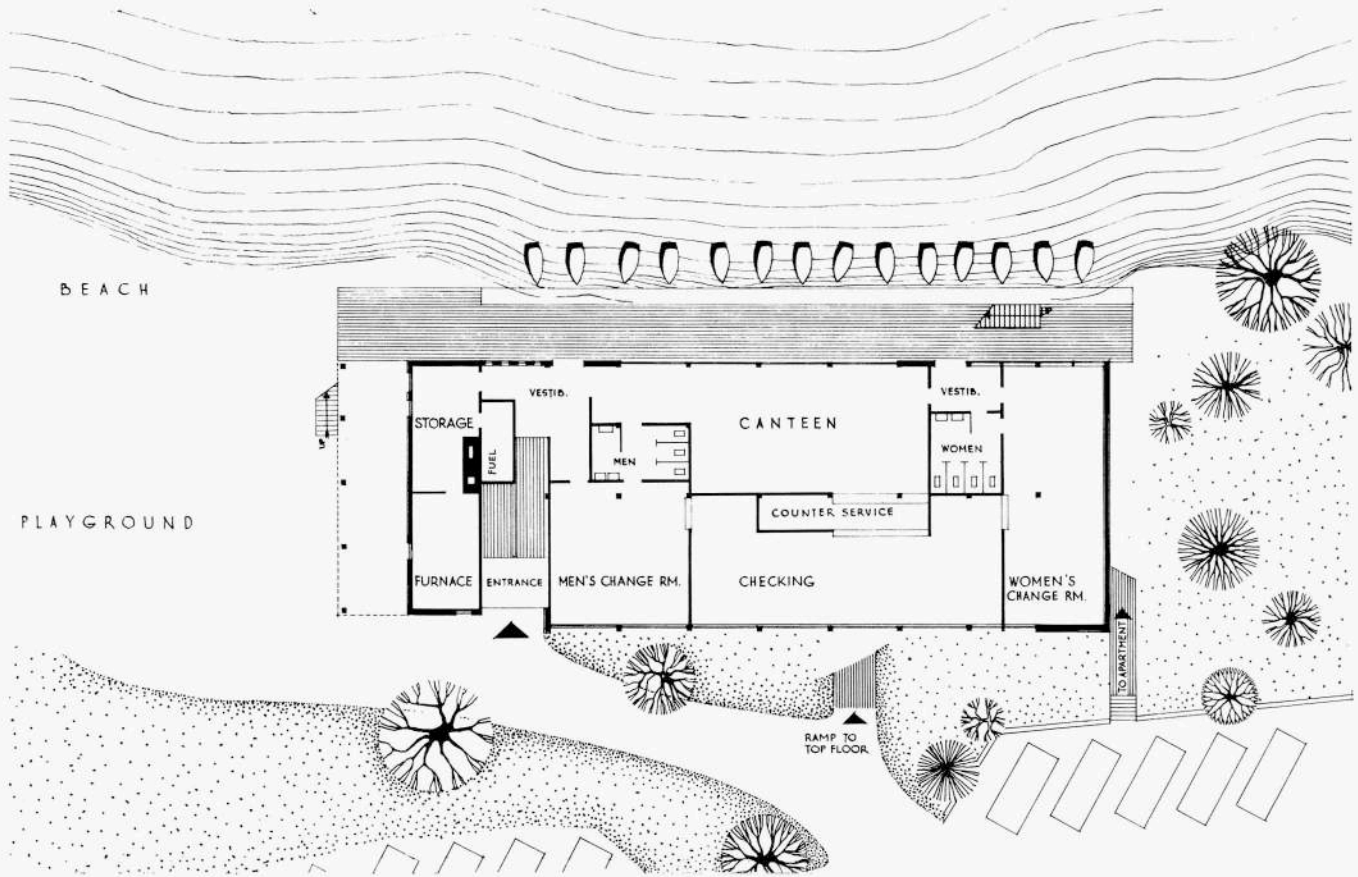
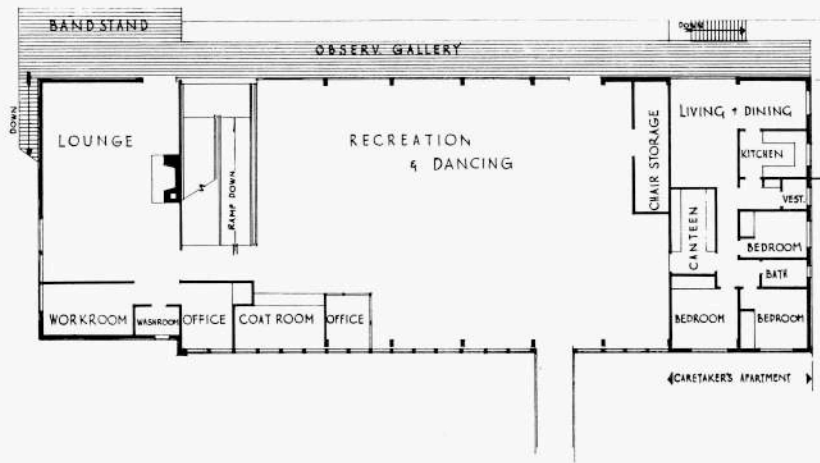
The building has proved very suitable and popular with young people. The strong colours both inside and out lend a cheerful look to the informal and economical building.

The total cost approximately was \$105,000.00; The total volume approximately is 130,000 cubic feet.

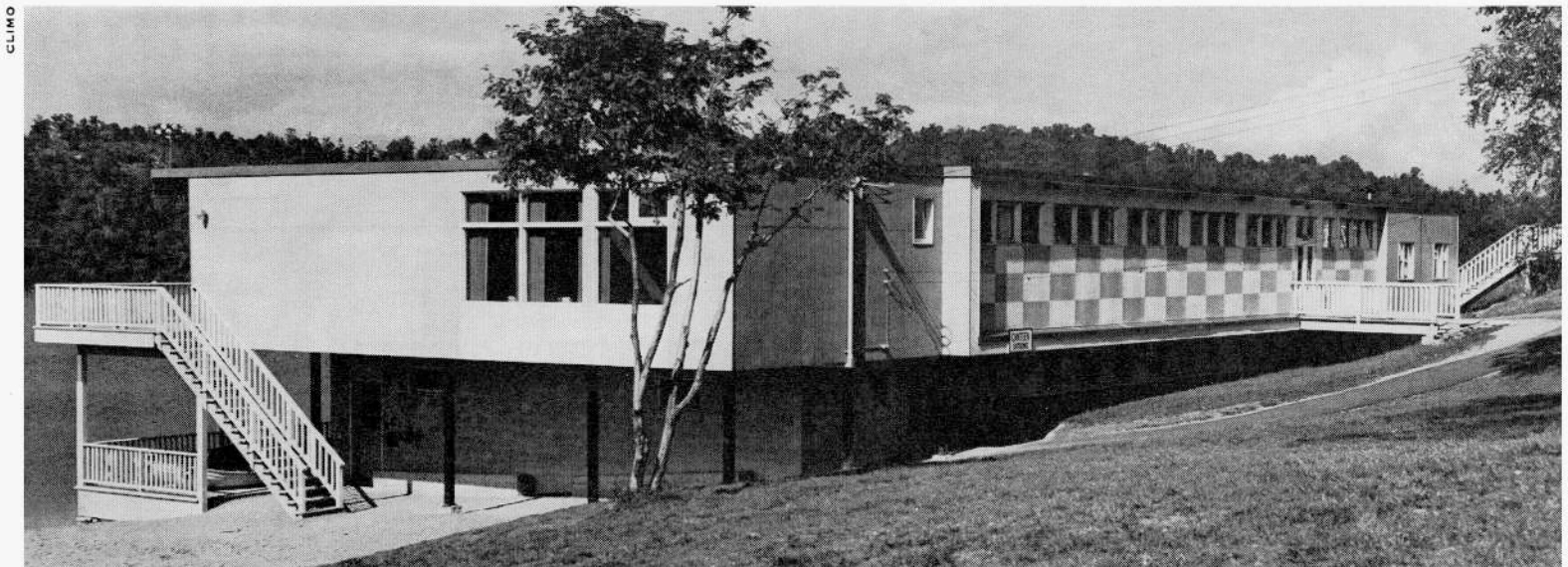
CLIMO



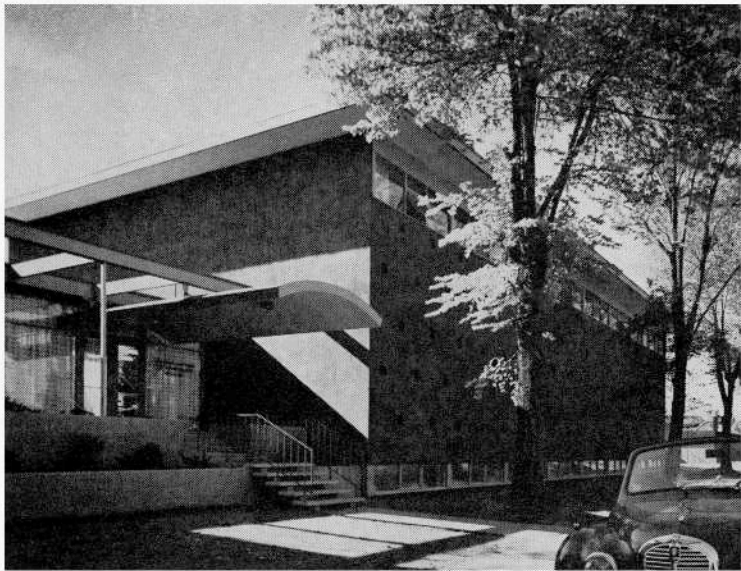
Top floor plan at right
Ground floor plan below



Landward side of Pavilion



CLIMO



GRAHAM WARRINGTON

Vancouver Lawn Tennis and Badminton Club, British Columbia

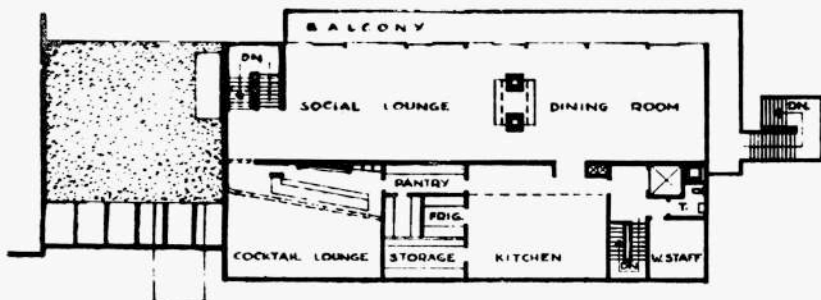
Associated Architects, Davison and Porter

Structural Engineers, Read, Jones, Christoffersen

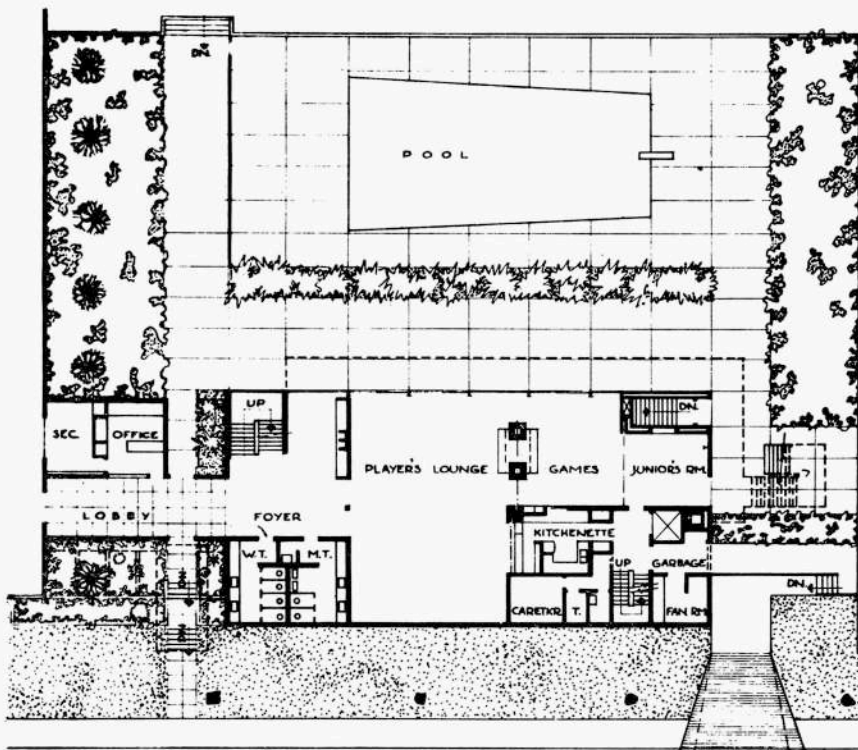
General Contractor, Marwell Construction Co. Ltd.

Main entry

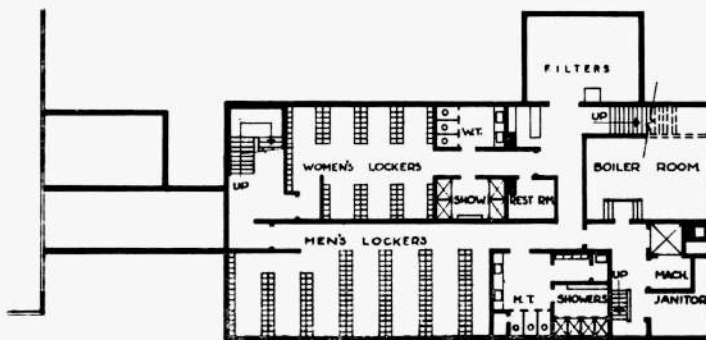
Top floor plan

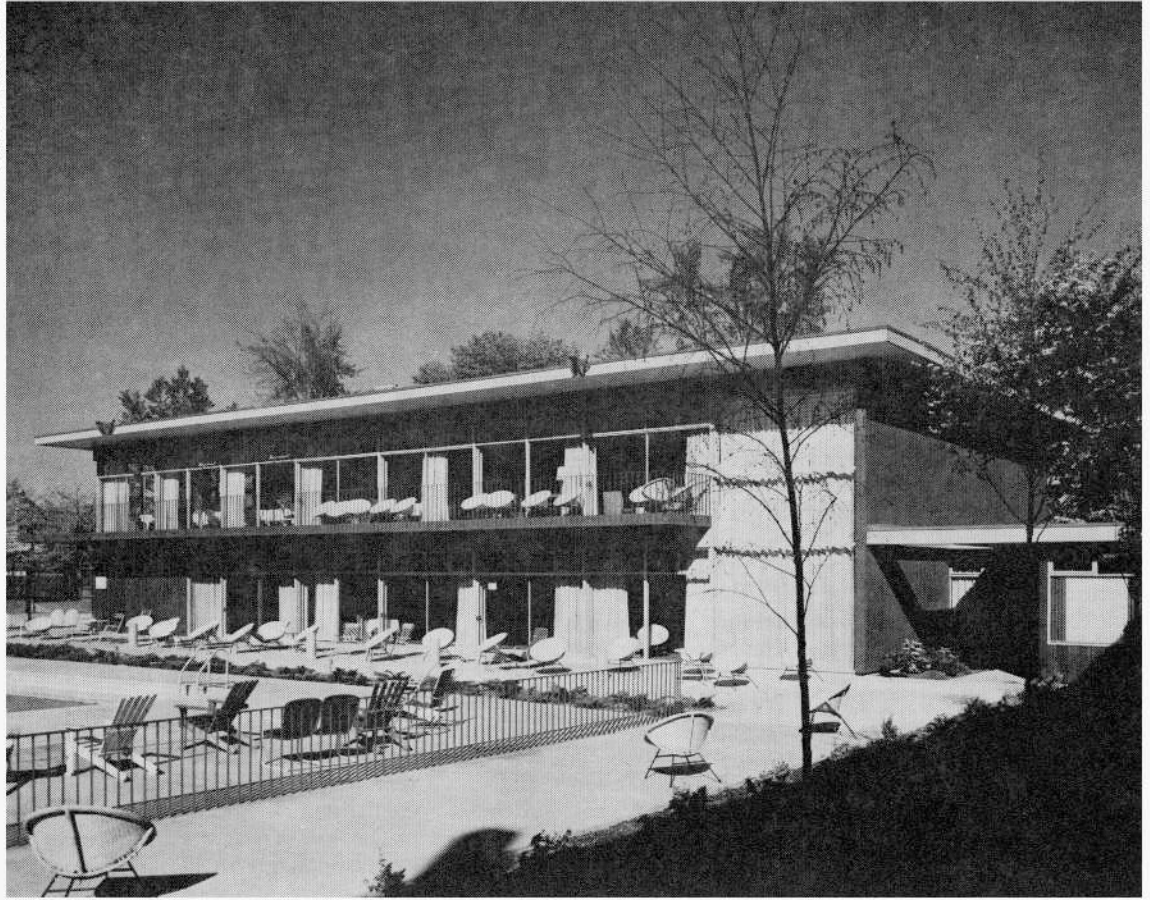


Ground floor plan



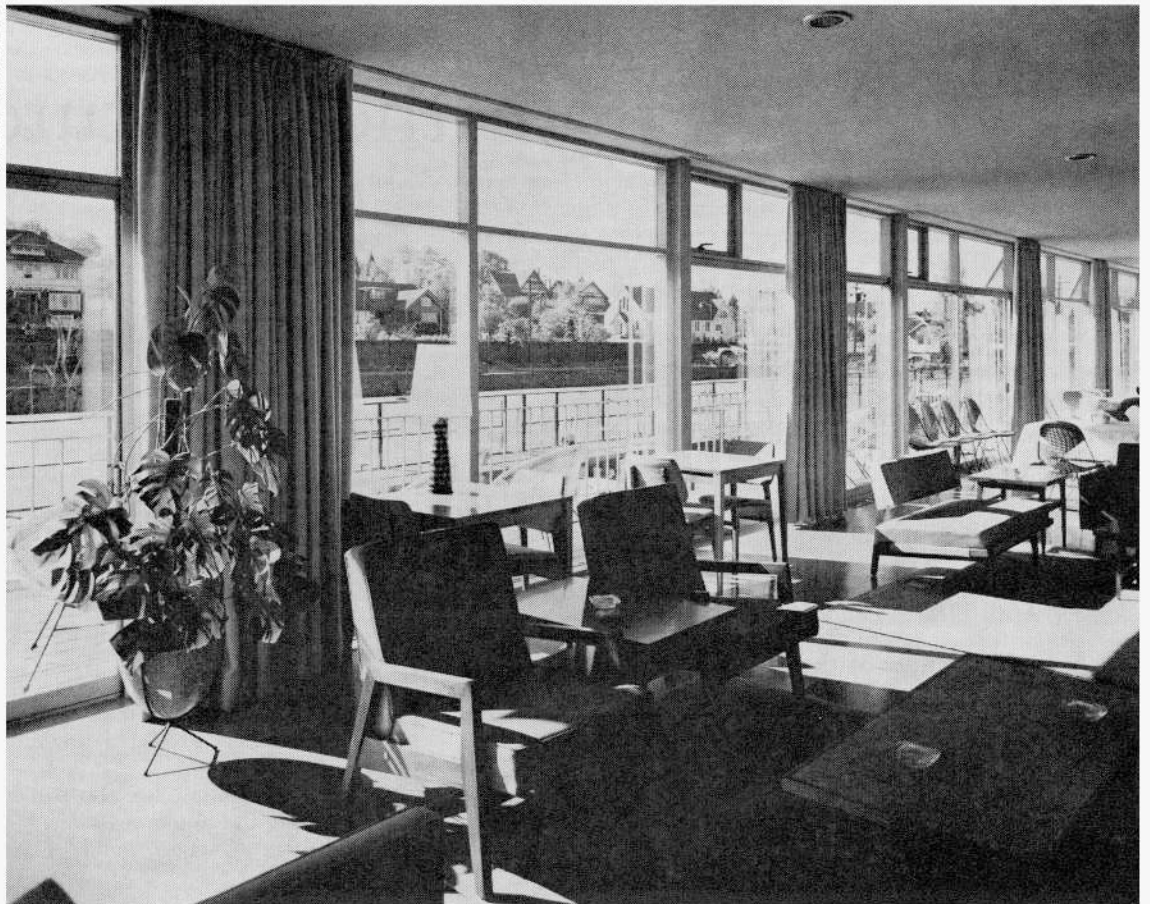
Basement floor plan





Exterior view of Club from garden

Main lounge



VIEWPOINT

Is the profession of architecture being prejudiced by the custom whereby architects style themselves "architects and engineers"? Just what services do they render that the architect himself does not render?

The question of the architectural profession being prejudiced by this custom involves a comparison of the quality of service given by the private architect retaining a consulting engineer and the architect-engineer office. I think that such a comparison is virtually impossible since so much depends on the individuals concerned.

An architect who has offered service to the public in both of these ways may well be able to give a good argument for or against but it is unlikely that his (or her) experience could be generalized.

From the client's point of view, I don't think the question is serious as long as he feels he gets value; our clients (like us) want the best for the least; if an architect can provide this by 'styling himself' as an architect and engineer his client will no doubt think well of him.

N. H. McMurrich, Toronto

It is to be assumed that a firm which styles itself "architects and engineers" provides, as part of its service to clients, engineering services which have not normally been provided by architectural firms (and which are therefore not expected of them by the public). These services might be structural, mechanical and/or electrical, which clients would assume, due to long custom, to be provided by separate consulting firms.

Thus it would appear reasonable that a firm which offers

such extra facilities as part of a "package" service, should so indicate. Since there is presumably no prejudice to the profession in providing complete building design service, there can be no objection to indicating such service in the firm's name. It would be unjust to use the term unless engineering services are in fact available within the firm. And it should be noted that in provinces where legislation clearly separates the functions of architect and engineer, there are restrictions on the use of the term engineer by an architect.

Campbell Merrett, Montreal

I feel that the architectural profession is being prejudiced by the use of the combined title of "architects and engineers".

It was probably first used to attract the attention of and establish a bond between industrial executives, themselves usually graduates in engineering, and architects aspiring to become specialists in designing of industrial buildings. As the function of the architect became better known this approach became out-dated and less useful than it perhaps once was.

The architect is and should be the most important member of any team of design, co-ordinating the work and study of all specialists who may be called in to handle certain phases or conditions of the work. In this matter he should have a free choice to select the man or firm who can give the best advice on that particular subject or division of the work, and not be confined to those in his own office or employ who may very well be all round good men but not in the above sense specialists.

The use of the title "architects and engineers" is covered very completely in the regulations of the Registration Board as published, and should be familiar to all practising architects.

William R. Souter, Hamilton

News from the Institute

CALENDAR OF EVENTS

Annual Meetings of the Provincial Associations:

Quebec, Chateau Frontenac, Quebec City, January 30th to February 1st, 1958.

Alberta, MacDonald Hotel, Edmonton, January 31st to February 1st, 1958.

Ontario, Royal York Hotel, Toronto, February 28th to March 1st, 1958.

Brussels Exhibition, Belgium (theme—"The Unity of Mankind"), April 17th to October 17th, 1958.

1958 Annual Assembly of the Royal Architectural Institute of Canada, Queen Elizabeth Hotel, Montreal, June 11th to 14th.

1958 Annual Convention of the American Institute of Architects, Hotel Cleveland, Cleveland, Ohio, July 7th to 11th.

ONTARIO

The extensive activity in the construction industry during the past ten years has created many problems for both architects and builders, each of whom have been striving to demonstrate and prove their ability in their respective avocations under somewhat unusual and ever changing conditions. During such a phase there always exists the tendency for some to claim they possess that ability and many have joined the ranks of general contractors and sub-contractors without the necessary knowledge or financial status and at the moment there is no legislation to prevent their so doing. This situation does not arise in the professional field, as all architects must qualify and produce "proof of proficiency" before being permitted to practise.

Many projects are either deferred or abandoned after the receipt of tenders, and in many instances architects are criticized when tenders exceed a predetermined budget or computation of cost.

General contractors are also subjected to similar criticism and excluding the numerous items beyond their control, such as union rates of wages, holidays with pay, shorter working

days, shortage of skilled labor, etc., there are many factors which in my opinion are contributing to excessive building costs and to which very little reference if any has been made hitherto. Briefly I would summarize them as follows:

- 1) Too many firms are trading without the necessary qualifications which entitle them to the classification of general contractors and sub-contractors, many of whom do not even own any equipment; in fact, they are nothing more than brokers.
- 2) There are too many "intermediaries" or "distributors" handling the various materials and components of buildings, thereby adding to the cost by "mark-up" before an architect or contractor even receives an estimate.
- 3) The period allowed for tendering is invariably totally inadequate observing that architects devote many months in designing a building, preparation of plans and specifications, and yet a general contractor is expected to prepare his tender in a few weeks — in fact, some sub-contractors are even expected to prepare their estimates overnight.
- 4) The documents issued by architects are sometimes inadequate both in number and quality, leaving a general contractor and his sub-contractors to guess what the architect has in mind or requires. Sub-contractors are often denied the use of plans for the requisite period in which to prepare their estimates.
- 5) Inadequate co-ordination of the work of consulting engineers in both structural and mechanical trades in the planning stage and the too frequent use in their specifications of the words "by others" and "or equal and approved". Some architects are also delinquent in this respect.
- 6) Local politics in small cities which determines that only local contractors or sub-contractors shall tender irrespective of whether they have the necessary experience, knowledge or financial status.
- 7) The failure on the part of some general contractors and sub-contractors to fully study the drawings, specifications and conditions upon which tenders are invited and upon which a contract will be awarded.
- 8) The reluctance on the part of general contractors and sub-contractors to order equipment and material in advance of requirements, thereby delaying the progress of the work which, in turn, affects cost. This is invariably due to financial considerations.

Unfortunately the space allocated to me does not permit enlargement upon these observations, but they are based on experience over many years and I am satisfied they merit further study.

There are in my opinion many defects in the prevailing "modus operandi" of inviting tenders; in fact, it is beyond my understanding why control of a project during this period is surrendered by architects. We labour conscientiously, planning, designing and striving to create, and yet we have no idea who will be entrusted with the onerous duty of faithfully interpreting our plans and details and exercise no control over general contractors when inviting estimates in the major sub-trades.

I personally am of the opinion that more accurate tenders would result from selection of general contractors by architects as opposed to advertising; moreover, why should reputable firms of general contractors be expected to compete with the unskilled with the attendant risk of wasting time and money estimating, when cost alone is considered to be the predominant factor governing the decision to award a contract.

We are repeatedly reminded that this is a "young country" and time may prove that the only satisfactory and guaranteed method in which to obtain accurate and competitive tenders is upon a Bill of Quantities prepared by a qualified quantity surveyor whose fees would be paid by the client. The adoption of this method would be beneficial to all concerned, but to architects in particular in that it would serve to nullify the assumed advantages of the "packaged deal" in which the cost of professional guidance alone could be an "unknown quality".

Leslie H. Kemp, Kitchener

QUEBEC

When some feature of the local scene is contrasted unfavourably with something abroad it is often lightly shrugged off with that shop-worn expression "Distant fields often look greener". True it is sometimes difficult to make valid comparisons and often they are not in the best of taste. Notwithstanding all this some fleeting impressions of a recent hurried trip to Philadelphia may prove salutary and lead to improved attitudes toward some of the problems that beset us.

For instance the lovely Colonial brick government buildings in Philadelphia where the first United States Congress met in 1776 have been carefully preserved and incidentally attract many tourists. Much of this portion of the city has deteriorated but an active program of rehabilitation is now underway. Large city blocks have been torn down and a well landscaped mall has been created affording an excellent setting for this group of historic buildings. Other large tracks of land are about to be cleared to make way for a government assisted housing development. In other words, the city fathers of Philadelphia are taking positive steps to arrest decay at the heart of the metropolis.

In many ways that section of Montreal adjoining the city hall and containing the Chateau Ramezay and Bonsecours is a comparable area. The Town Planning Department of the City of Montreal have stacks of plans on file prepared some years ago by Jacques Greber, the planning consultant which, if carried out, would restore to the core of Montreal that peculiar quality resulting from a blend of two cultures which characterized older Montreal. For example, a broad mall with suitably landscaped terraces flanked by restored blocks of buildings in native style and stretching from Nelson's shaft down to the harbour would relate the heart of the city with its important port.

Another striking feature which should commend itself to Montreal's traffic planners are the limited access highways which are under construction and permit speedy transit to the very heart of the city.

One of Philadelphia's earlier efforts in traffic easement was the creation of a broad diagonal boulevard from its city hall and terminating in the Museum of Fine Arts some three miles distant. Motor traffic moves up this broad boulevard fairly rapidly, swings around the museum and joins up with a fine driveway along the Schuylk River which meanders through Fairmount Park. Many fine public and commercial buildings have been erected along this splendidly landscaped boulevard. Consequently the scars caused by this bold slum clearance project are gradually being healed. When Montreal attempts another Dorchester boulevard scheme, plans must be made to homologate a wide enough swath of old properties in order to provide adequate settings for important buildings which would naturally be attracted to any important thoroughfare.

The concern which Americans have for their historic sites and monuments is common knowledge. A drive to nearby Valley Forge where George Washington's army fought an engagement almost 200 years ago is a delightful example of the love and vigilant care they give to their historic sites. The countryside, even though close to a great city, is wonderfully well preserved. The buildings and grounds have been lovingly tended and splendid visits have been obtained by judicious clearing of wooded slopes. Surely our French-speaking Canadians should lead us to a proper appreciation of our historic buildings and monuments.

A distinguishing feature of the highway to Valley Forge is the absence of billboards and tiny pill boxes on stilts which masquerade for homes. Some of our highways, particularly the Laurentian highway to Ste. Agathe is simply appalling in this regard. It is necessary to drive some 60 miles from Montreal to get away from ugly signs, cute replicas of Alpine architecture and all the other bits and pieces of the city which clutter the flanks of the highway all the way to Ste. Agathe.

Dare we hope for better things in the new Laurentian Toll Road! Surely the provincial authorities will consult and integrate their plans with the interested municipal authorities.

Only by careful planning will the huge investment required for such projects prove economically sound and effective. We already have some fine bridges from our island city which could carry more traffic if only the various roads leading to the beachhead were more accessible. Or must we continue to put on rose coloured glasses before we survey the distant scene in Quebec!

H. A. I. Valentine
President of the PQAA

OBITUARY

Arthur George Facey of Toronto, a Member of the Ontario Association of Architects since 1935, died suddenly on October 22nd. Mr Facey was born at St. Andrew, Jamaica, where he received his education. After serving in the City Architect's Department at Kingston, Jamaica, for five years, he joined the firm of Bernard H. Prack, architects of Pittsburgh, Pa.

Mr Facey came to Canada in 1919, and for many years was associated with the firm of Chapman and Oxley. He started his own practice in Toronto in 1943. While with the Chapman and Oxley firm, projects with which he was associated included the Royal Ontario Museum, the Prince's Gates at the Canadian National Exhibition, and Holy Blossom Temple. Since opening his own office he designed plant and offices for the Colgate-Palmolive-Peet Company and the Sunbeam Corporation, as well as numerous other buildings.

THE R. S. REYNOLDS MEMORIAL AWARD

This award was established last year for the first time and is being offered again in 1958. The award carries an honorarium of \$25,000 and is international in scope.

The award is conferred annually upon an architect who, on the judgment of his profession, has made a most significant contribution to the use of aluminum, aesthetically or structurally, in the building field.

Prime consideration is given to the creative value of the contribution, and its potential influence on the architecture of our times, rather than to the size or type of structure.

To be considered for the award, an architect must be nominated by the Executive Committee or a designated committee of a Chapter of the American Institute of Architects, or any other architects' society or architects' group outside the United States of America, or by any university or college. An architect cannot nominate himself nor take any other action to enter the contest.

In the case of members of the RAIC, further particulars and nomination forms may be obtained from their Provincial Associations. Nomination forms must be forwarded to the AIA by January 15th, 1958. Those wishing to compete should contact their Provincial Associations as soon as possible.

COMPETITION — BOILER HOUSE DESIGN

The Bituminous Coal Institute of Canada is sponsoring two competitions for the design of a Boiler House.

Competition "A"

The B.C.I. invites registered architects who received their degree not more than 10 years prior to December 31st, 1957 to compete. The competition is open to:

- (a) Members of the Royal Architectural Institute of Canada who are domiciled in Canada.
- (b) Members of the American Institute of Architects who are domiciled in Canada.
- (c) Associates of the Royal Institute of British Architects who are domiciled in Canada.

The B.C.I. invites any graduate of a recognized Canadian School of Architecture presently employed in Canada by a registered architect to compete. The graduate must have received his degree not more than 10 years prior to December 31st, 1957. The competition is open to graduates of the following recognized Schools of Archi-

teature: Ecole des Beaux-Arts de Montreal; McGill University, Montreal; The University of Toronto; The University of Manitoba; The University of British Columbia.

Any architect or graduate entering the competition shall retain as a collaborator a registered professional engineer, who has been in practice for not more than 10 years as of December 31st, 1957. The winner shall receive a prize of \$2,000.00. The competitor placed second shall receive a prize of \$1,000.00.

Competition "B"

The B.C.I. invites all architectural students at present registered in a recognized School of Architecture to compete. The recognized Schools of Architecture are those listed under Competition "A". Any architectural student entering the competition shall retain as a collaborator, a student mechanical engineer. The winner shall receive a prize of \$1,000.00. The competitor placed second shall receive a prize of \$500.00.

Particulars and Conditions of the Competition are available now and may be obtained by completing the request form for Conditions of Competition. Notice of Intention to Compete shall be mailed so as to arrive by *January 10th, 1958* and shall be addressed as follows:

Professional Advisors
Bituminous Coal Institute of Canada Competition
c/o Bituminous Coal Institute of Canada
32 Front Street West
Toronto 1, Ontario.

Closing date of Competition is April 21, 1958. Professional Advisors are P. M. Keenleyside, MRAIC; Donald Russell, MRAIC. Committee of Assessors consists of G. E. Wilson, MRAIC; J. B. Langley, MRAIC; E. R. Davis, MEIC.

TOWN PLANNING INSTITUTE

COUNCIL 1957-58

President: Burroughs Pelletier, Provincial Bureau of Town Planning, Department of Municipal Affairs, Province of Quebec, P.Q.

First Vice President: A. G. Martin, City Hall, Calgary, Alberta.

Second Vice President: A. L. S. Nash, Department of Planning & Development, Community Planning Branch, 880 Bay Street, Toronto, Ontario.

Secretary: Hugh T. Lemon, The Board of Trade Building, 11 Adelaide Street West, Toronto 1, Ontario.

Past President: P. Alan Deacon, Sheppard & Pharmacy Avenue, O'Sullivan P.O., Ontario.

COUNCILLORS

Alan H. Armstrong, 126 Fourth Avenue, Ottawa, Ontario.

C. E. Campeau, City Planning Department, City Hall, Room 403, Montreal, Quebec.

J. Alexander Walker, 626 West Pender Street, Vancouver 2, B.C.

Murray V. Jones, Metropolitan Planning Board, Toronto, Ontario.

M. B. M. Lawson, City of Toronto Planning Board, 129 Adelaide Street West, Toronto 1, Ontario.

L. Gertler, 304 Roselawn Avenue, Toronto 12, Ontario.

Gordon Stephenson, School of Architecture, Division Town & Regional Planning, University of Toronto, Toronto, Ontario.

J. T. Allston, Director of Urban & Rural Planning, Dept. Municipal Affairs and Supply, St. Johns, Newfoundland.

Don South, 2890 Ashley Road, Victoria, B.C.

Eric W. Thrift, 301 Mitchell-Copp Building, 334 Portage Avenue, Winnipeg 1, Manitoba.

Murray Zides, City Hall, St. John, New Brunswick.

EMPLOYMENT WANTED

Experienced perspective artist will prepare illustrative diagrams, sketch perspectives, presentation perspectives. Write David H. Warner, 625A Linden Avenue, Victoria, B.C.

POSITION VACANT

Architect would appreciate assistance in locating an MRAIC desiring an association with a small architectural firm in South Central Ontario, established three and a half years ago and having handled one and a quarter million dollars worth of work. Architects interested should reply care of the *Journal RAIC*, 57 Queen Street West, Toronto.

Book Reviews

ERIC MENDELSON by Arnold Whittick. Published by F. W. Dodge Corporation, New York. 219 pages. Price \$9.85.

The first edition of this book on the life and work of Eric Mendelsohn published in 1940 has been extensively revised and, with the addition of his work in the USA, it does not seem possible that a more complete biography could be written. Everything is included, from the famous early sketches to the last synagogues, complete lists of his buildings, his lectures, and the books he wrote. The illustrations have been superbly chosen, the drawings are clear and concise showing exactly what they intend and no more, a most welcome relief from many publications; the photographs convey successfully the atmosphere of the particular building and the reproductions of Mendelsohn's early sketches are most exact: the author and printers are to be congratulated on this aspect of their work.

Obviously the author is a great admirer of Mendelsohn and it is in this very fact that the difficulties of the biographer become apparent: in attempting to explain the man and his work, criticism invariably tends to be favourable. Whilst this is natural and almost inevitable, the problem remains that as Mendelsohn was one of the main proponents of the modern movement in the twenties, his work must always be assessed in relation to the development of that period.

Possibly Mr Whittick was wise in not attempting to venture into this aspect too deeply. However, the unfortunate impression remains that there is a smooth, continuing flow of development from the Einstein Tower to perhaps the Columbushaus in Berlin. It is precisely this period of Mendelsohn's architectural development from 1920 to 1931 that is most fascinating. Surely the Dutch influence of the twenties is too apparent to be treated so lightly? This was the period of the formulation of his main ideas. Admittedly there is a letter written to his wife that seems to repudiate most of what he saw in Holland on his 1923 lecture tour, but the general influence undoubtedly remained and the sharp variations in his architectural ideas of that time indicates that this is so.

Expressionism, futurism, dynamism, functionalism, all were meat of architectural discussions of this period. Probably the battle will always rage in trying to place Mendelsohn, for of his genius there is no doubt, not that of the teacher, but of the individual, the original, the non-conformist.

Mr Whittick's manner of writing is extremely lucid and has managed to explain each building concisely and with feeling for his subject, no mean feat when 75 buildings or projects alone are discussed. Above all, the essential character of Mendelsohn is well conveyed, a cultured, highly sensitive person whose life was dedicated to architecture.

Maurice Clayton

STRUCTURES by Pier Luigi Nervi. Published by the F. W. Dodge Corporation, New York. 136 pages. Price \$6.95.

Pier Luigi Nervi, a master builder, presents here an inspiring readable book with many illustrations of his works built during the last thirty years in Italy, showing the flexibility of reinforced concrete. This is a book every architect should read.

Nervi starts at the beginning to give his views on the training of an architect, dealing with the client and economy in construction. Philosophically he states that "Construction may

well be considered the most typical expression of the creativity of a people and the most significant element in the development of its civilization."

The nature of concrete, a plastic material, allows the construction of varying shapes as opposed to using it in imitation of post and beam construction. By means of model analysis, it is possible to design a structure to follow the most economical stress pattern to give a satisfying building both economically and aesthetically.

Throughout this book, Nervi mentions many interesting points to watch in the design and construction of concrete structures. As an example of his experience, he finds the best steel ratio to be 8 lbs. per cubic foot for ordinary structures, in order for the concrete to acquire its characteristics of strength, elasticity and plasticity. In a complicated structure, the reinforcing steel should form a stable structure in itself, capable of sustaining the load.

In considerable detail, Nervi describes his invention of ferro-cemento, the process of building thin slab structures with wire mesh and reinforcing rods and applying the mortar direct. He goes on to describe the building of boats with ferro-cemento—the hull of his 40 foot ketch is only 0.5 inch thick. Other uses of ferro-cemento include the construction of undulating roof structures, even with clear spans of 1000 feet. Ferro-cemento has also been used to make prefabricated smooth formwork for cast-in-place concrete. He forecasts a bright future for ferro-cemento, even to the making of railway ties.

Prefabricated concrete structures, especially for airplane hangars, are also covered in this book.

In the shapes of things to come, airplane wings have been built of prestressed concrete. In conclusion Nervi writes "Where the actual behavior of concrete under load and in time is better known, when laboratory practices capable of producing 14,000 p.s.i. concrete are commonly applied in the field, and when plastic redistribution of stress in complicated structures is foreseeable, the amazing results achieved so far will be easily surpassed."

Tinos Kortés

A contemporary Italian genius: architect, engineer, builder, teacher, writes a small explicit book of his experiences with Reinforced Concrete Structures. Nervi's search for a truer expression of the reinforced concrete structure has led him to develop an entirely new conception of formwork, and an entirely new structural material which he calls "Ferro-Cemento".

This book is very well illustrated with his amazing concrete structures, and in some cases are accompanied with details of reinforcing.

In some of his more complicated buildings that are classed as Statically Indeterminate he relies completely on experimental model analysis. Although this is not a new theory it is a little unusual to accept such findings as a basis for the structural design of a large reinforced concrete building. Ferro-cemento is a thin sheet of fine aggregate concrete in which is embedded one or more layers of expanded metal lath or pencilrod. Nervi uses this material as formwork, structural wall or roof, prefabricated beam, boat hull, airplane wing, etc. It is an amazing material, which gives amazing results.

I would like to repeat, Nervi is a genius. He leaves Gaudi, Corbusier, and Wright far behind, as far as pure structural architecture is concerned.

Bernard Rieger

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Architect:
Earle C. Morgan

Interior designers:
J & J Brook Limited

The Turf Club cocktail
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